PMC-222V

SERVICE MANUAL

E Model

Ver 1.0 1998.05

COMPACT disc DIGITAL VIDEO

VIDEO CD

CD Section	Model Name Using Similar Mechanism	CFD-V34L
	CD Mechanism Type	KSM-213CDM/C2NP
	Optical Pick-up Name	KSS-213C/Q-RP
Tape deck Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	MF-PMC212

SPECIFICATIONS

CD player section

System: Compact disk digital audio/video system

Laser diode properties: Material : GaAlAs
Wave length:780 nm
Emission duration : Continuous
Laser output : Less than 44.6 µW
(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)

Spindle speed: 200r/min (rpm) to 500 r/min (rpm) (CLV)

Number of channels: 2

Frequency response: 20 – 20,000Hz + 1/–2dB

Wow and flutter: Below measurable limit

Color system format: NTSC, PAL

Radio section

Frequency range: FM : 87.6 – 108 MHz
AM : 531 – 1,602 kHz

Aerials: FM : Wire aerial
AM : External aerial

Cassette-corder section

Recording system: 4 -track 2 channel stereo

Fast winding time: Approx. 120 s (sec.) with Sony cassette C-60

Frequency response: TYPE I (normal) : 80 – 14,000 Hz
TYPE II (high position) : 80 – 15,000Hz

General

Speaker: Full range : 10 cm (4 in.) dia., 6 Ω, cone type Tweeter : 2cm (4/5 in.) dia.

Inputs: Mixing microphone input jack (minijack):
Sensitivity 2.5mV
For 16 – 68 Ω impedance headphones

Outputs: Headphones jack (stereo minijack)
For 16 – 64 Ω impedance headphones
Video output (phono jack)
Output level 1Vp-p at 75Ω
Recommended load impedance over 75Ω

Maximum power output: 30W + 30W

Power requirements: For CD radio cassette-corder
230V AC, 50Hz
For remote control:
3V DC, 2R6 (size AA) batteries

Power consumption: AC 55W

Dimensions (incl. projecting parts and controls)
Player: Approx. 160 × 237 × 292.5 mm (w/h/d)
(6 3/8 × 9 3/8 × 11 5/8 inches)
Speaker: Approx. 150 × 230 × 240 mm (w/h/d)
(6 × 9 1/8 × 8 1/2 inches)

Mass: Player: Approx. 4.9 kg (10 lb 13 oz)
Speaker: Approx. 2.2 kg (4 lb 14 oz)

Supplied accessories: Remote control (1)
AM loop aerial (1)
Video cord (1)

Design and specifications are subject to change without notice.

PERSONAL COMPONENT SYSTEM

MICROFILM

SONY®

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CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

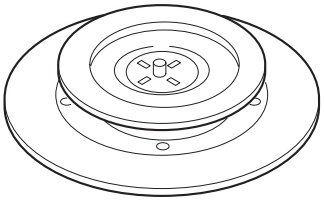
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SERVICING NOTES

CHUCK PLATE JIG ON REPAIRING

On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.
• Code number of Chuck Plate Jig : X-4918-255-1



NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

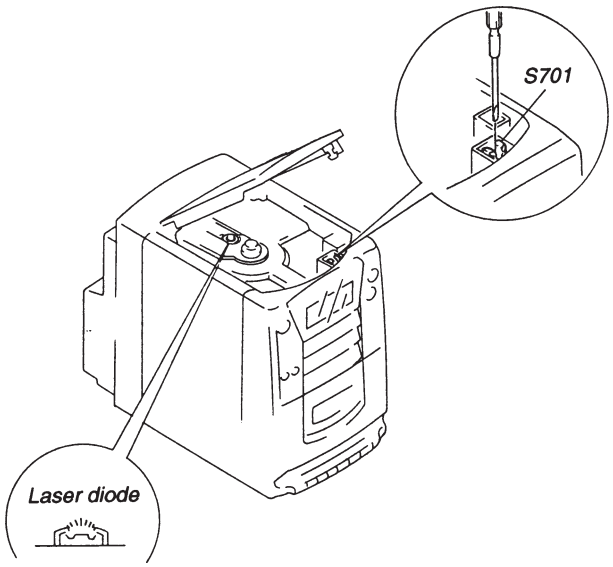
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc., on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

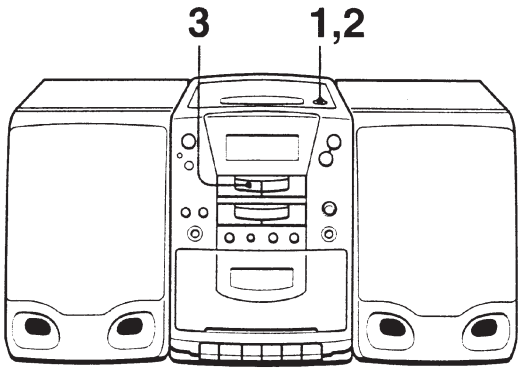
The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Turn POWER switch on with no disc inserted and make Function switch to CD position.
2. Open the lid for CD.
3. Turn on S701 as following figure.
4. Press the ►II button.
5. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down three times for the focus search.



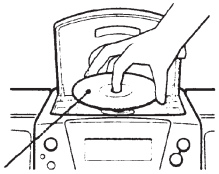
Playing an audio CD



For hookup instructions, see pages 28 - 30.

1

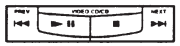
Press ⏏ PUSH OPEN/CLOSE down to open the lid of the CD compartment and place the CD on the CD compartment.



2

Close the lid of the CD compartment.

3



Press ▶II (direct power-on).

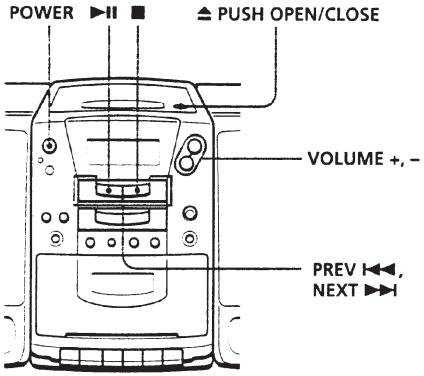
The player plays all the tracks once.

Display

Tip

Next time you want to listen to a CD, just press ▶II. The player turns on automatically and starts playing the CD.

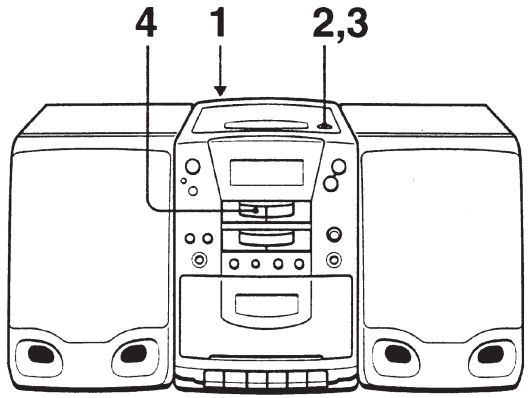
Use these buttons for additional operations



To	Press
adjust the volume	VOLUME +, –
stop playback	■
pause playback	▶II Press the button again to resume play after pause.
go to the next track	NEXT ⏭
go back to the previous track	PREV ⏮
remove the CD	⏏ PUSH OPEN/CLOSE
turn on / off the player	POWER

This section is extracted from instruction manual.

Playing a VIDEO CD



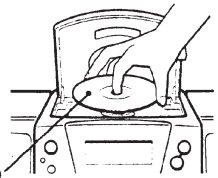
For hookup instructions, see pages 28 - 30.

1

Set the COLOR SYSTEM at the rear to "NTSC" or "PAL" according to the color system of your TV.

2

Press ⏏ PUSH OPEN/CLOSE down to open the lid of the CD compartment and place the VIDEO CD on the CD compartment.



3

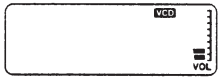
Close the lid of the CD compartment.

4

Press ▶II (direct power-on).

The player starts playing the VIDEO CD.

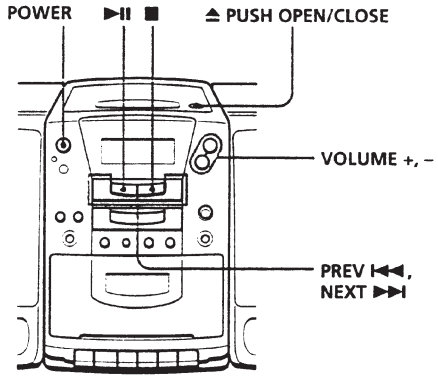
Display



Tips

- Next time you want to play a VIDEO CD, just press ▶II. The player turns on automatically and starts playing the VIDEO CD.
- NTSC system countries: Japan, Korea, Taiwan, the U.S.A., etc.
  PAL system countries: China, India, Indonesia, Singapore, Malaysia, etc.

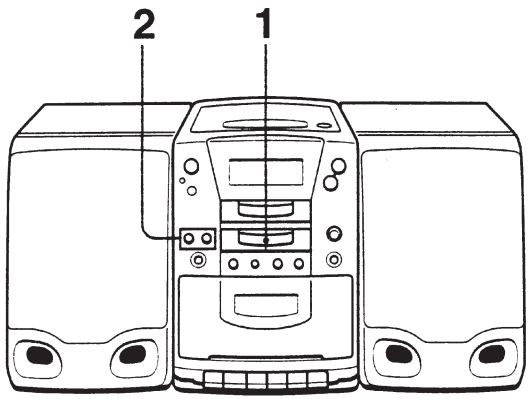
Use these buttons for additional operations



To	Press
adjust the volume	VOLUME +, –
stop playback	■
pause playback	▶II Press the button again to resume play after pause.
go to the next track* or scene	NEXT ⏭
go back to the previous track* or scene	PREV ⏮
remove the CD	⏏ PUSH OPEN/CLOSE
turn on/off the player	POWER

*Only for VIDEO CDs without PBC functions (Version 1.1).

Listening to the radio

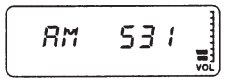


For hookup instructions, see pages 28 - 30.

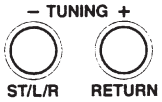
1

Press BAND until the band you want appears in the display (direct power-on).

Display



2

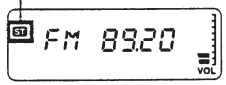


Hold down TUNING + or – until the frequency digits begin to change in the display.

The player automatically scans the radio frequencies and stops when it finds a clear station.

If you can't tune in a station, press the button repeatedly and change the frequency step by step.

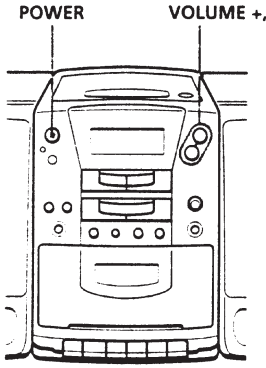
Indicates an FM stereo broadcast



Tips

- If the FM broadcast is noisy, press PLAY MODE•MONO/ST until "Mono" appears in the display and the radio will play in monaural.
- Next time you want to listen to the radio, just press BAND. The player turns on automatically and starts playing the previous station.

Use these buttons for additional operations



To	Press
adjust the volume	VOLUME +, –
turn on/off the radio	POWER

To improve broadcast reception

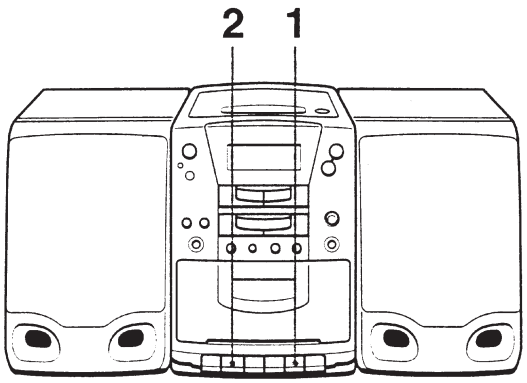
FM

Keep the FM aerial as horizontal as possible (see page 29).

AM

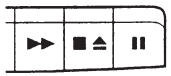
Keep the AM loop aerial (supplied) away as far as possible from the player and then reorient the aerial (see page 29).

Playing a tape

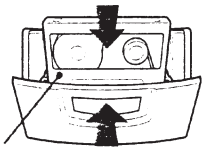


For hookup instructions, see pages 28 - 30.

1

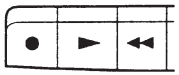


Press ■⏏ to open the tape compartment and insert a recorded tape. Use TYPE I (normal), TYPE II (high position) and TYPE IV (metal) tapes. Close the compartment.



With the side you want to play facing you

2



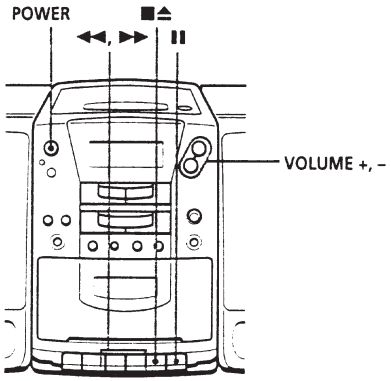
Press ►.

The player turns on (direct power-on) and starts playing.

Tip

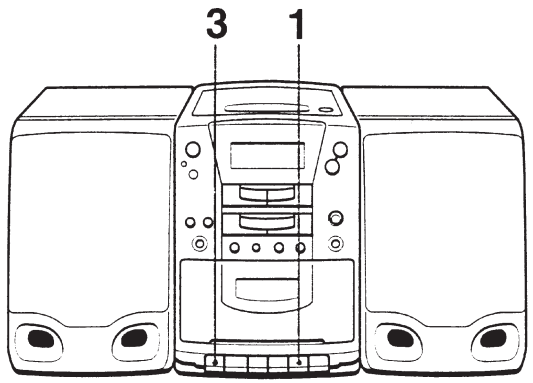
Next time you want to listen to a tape, just press ►. The player turns on automatically and starts playing the tape.

Use these buttons for additional operations



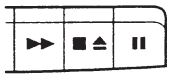
To	Press
adjust the volume	VOLUME +, –
stop playback	■⏏
fast-forward or rewind the tape	►► or ◄◄
pause playback	II Press the button again to resume play after pause.
eject the cassette	■⏏
turn on/off the player	POWER

Recording on a tape

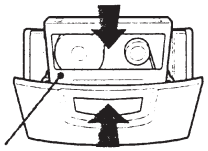


For hookup instructions, see pages 28 - 30.

1



Press ■⏏ to open the tape compartment and insert a blank tape. Use TYPE I (normal) and TYPE II (high position) tapes only.



With the side you want to record on facing you

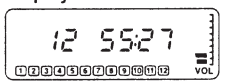
2

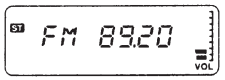
Select the program source you want to record.

To record from the CD player, insert a CD (see page 4) and press ■.

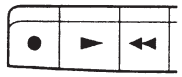
To record from the radio, press BAND and tune in the station you want (see page 8).

Display





3

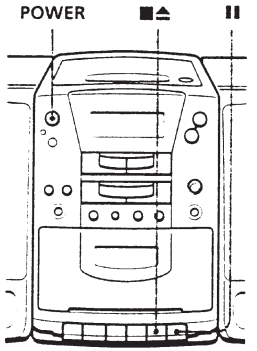


Press ● to start recording. (► is depressed automatically and play starts.)

Tips

- Adjusting the volume or the audio emphasis (see page 31) will not affect the recording level.
- If the AM program makes a whistling sound after you've pressed ● in step 3, move the AM loop aerial connected to the player as far away as possible.
- To erase a recording, proceed as follows:
  1 Disconnect the microphone if connected to the MIX MIC jack.
  2 Turn on the power.
  3 Press FUNCTION on the remote until "TAPE" appears in the display.
  4 Press ●.

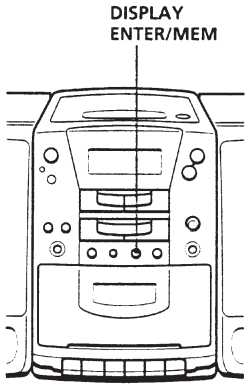
Use these buttons for additional operations



To	Press
stop recording	■⏏
pause recording	II Press the button again to resume recording.
turn on/off the player	POWER

Using the display

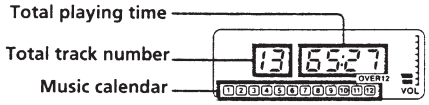
You can check information about the audio CD using the display.



Checking the total track number and playing time

Press DISPLAY•ENTER/MEM in stop mode.

If the CD has more than 12 tracks, "OVER 12" appears in the display.



Checking the remaining time

Press DISPLAY•ENTER/MEM while playing a CD.

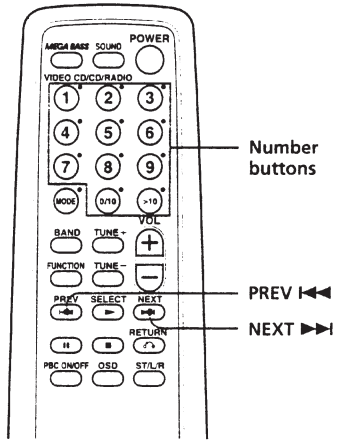
The track numbers in the music calendar disappear after they are played.

To display	Press DISPLAY•ENTER/MEM
the current track number and the remaining time on the current track*	once
remaining time on the CD and the number of tracks left	twice
the current track number and playing time	three times

* For a track whose number is more than 20 the remaining time appears as "– –:– –".

Locating a specific track

You can quickly locate any track using the number buttons. You can also find a specific point in a track while playing an audio CD.



Note

You cannot locate a specific track if "SHUF" or "PGM" is lit in the display. Turn off the indication by pressing ■.

Tip

When you locate a track numbered over 10, press >10 first, then the corresponding number buttons.

Example:

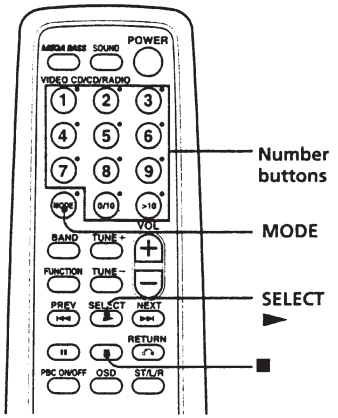
To play track number 23, press >10 first, then 2 and 3.

To locate	Press
a specific track directly	the number button of the track
a point while listening to the sound	NEXT ⏭ (forward) or PREV ⏮ (backward) while playing and hold down until you find the point
a point while observing the display	NEXT ⏭ (forward) or PREV ⏮ (backward) in pause and hold down until you find the point

Playing tracks repeatedly

(Repeat Play)

You can play tracks in an audio CD repeatedly in normal, shuffle or program play modes (see pages 17 – 19).



1 Press ■.

"CD" appears in the display.

2 Press MODE (PLAY MODE•MONO/ST on the player) until the repeat mode you want appears in the display.

To repeat	Select
a single track	REP 1
all the tracks	REP ALL
tracks in random order	SHUF REP
programed tracks	PGM REP

3 Do either of the following to start repeat play:

- **When you've selected REP1,** select the track by pressing the number button (pressing PREV ⏮ or NEXT ⏭ then ⏯ on the player).
- **When you've selected REP ALL or SHUF REP,** press SELECT ► (⏯ on the player).
- **When you've selected PGM REP,** program tracks (see step 3 on page 18), then press SELECT ► (⏯ on the player).

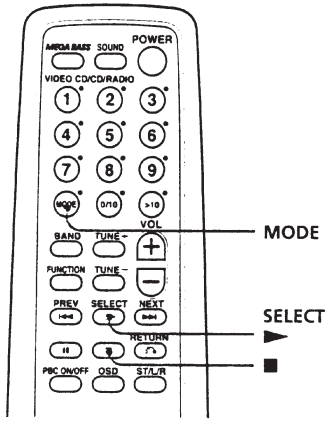
To cancel Repeat Play

Press MODE until "REP" disappears from the display.

Playing tracks in random order

(Shuffle Play)

You can play tracks in an audio CD in random order.



On the player

1 Press ■.
2 Press PLAY MODE• MONO/ST repeatedly until "SHUF" appears in the display.
3 Press ⏯.

1 Press ■.

"CD" appears in the display.

2 Press MODE until "SHUF" appears in the display.

3 Press SELECT ► to start shuffle play.

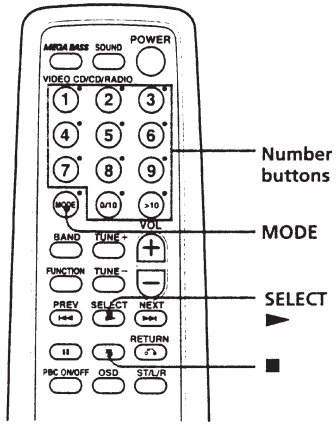
To cancel Shuffle Play

Press MODE until "SHUF" disappears from the display.

Creating your own program

(Program Play)

You can arrange the playing order of up to 20 tracks on an audio CD.



On the player

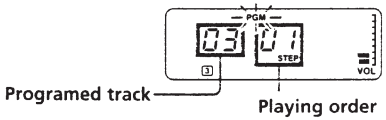
1 Press ■.
2 Press PLAY MODE• MONO/ST until "PGM" appears in the display.
3 Press the PREV ⏮ or NEXT ⏭ then press DISPLAY• ENTER/MEM for the tracks you want to program in the order you want.
4 Press ▶II.

1 Press ■.

"CD" appears in the display.

2 Press MODE until "PGM" appears in the display.

3 Press the number buttons for the tracks you want to program in the order you want. You can program up to 20 tracks.



The programed tracks appear in the music calender.

4 Press SELECT ► to start program play.

Tips

- You can play the same program again, since the program is saved until you turn off the power or open the lid of the CD compartment.
- You can record your own program. After you've created the program, insert a blank tape and press ● to start recording.

To cancel Program Play

Press MODE until "PGM" disappears from the display.

To check the order of tracks before play

Press DISPLAY•ENTER/MEM on the player.

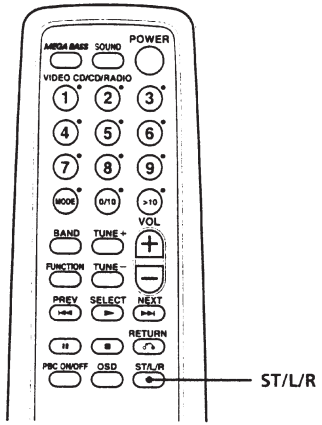
Every time you press the button, the track number appears in the programed order.

To change the current program

Press ■ once if the CD is stopped and twice if the CD is playing. The current program will be erased. Then create a new program following the programing procedure.

Playing a multiplex CD

On multiplex CDs, different sounds are recorded for the left and right channels. You can select either the left or the right channel and hear the sound of the selected channel. In this case, the stereo effect will be lost.



Tip

You can do the same operation using a VIDEO CD.

Press ST/L/R while playing a multiplex CD.

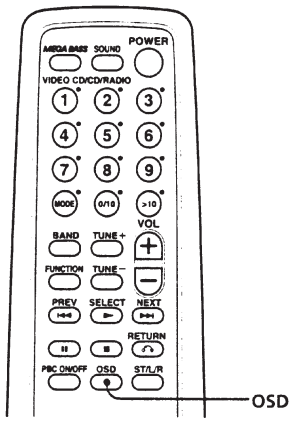
Each time you press the button, the indication and sound you hear change as follows:

Press	Indication	You will hear
once	L-CH	left channel sound
twice	R-CH	right channel sound
three times	STEREO	stereo sound

The initial setting is "STEREO."

Using the TV screen

You can check the operating status of the player and the information about the VIDEO CD on the TV screen.



Notes

- While playing an audio CD, the OSD mode cannot be displayed on the TV screen.
- When you record the playback picture of this player on another VCR, etc., be sure to select "OSD OFF". Otherwise, the display information will also be recorded on the VCR.
- The OSD mode returns to "OSD AUTO" when you turn off the player by pressing POWER or open the lid of the CD compartment.

Press OSD.

Each time you press the button, the OSD (On-Screen Display) mode changes as follows:

OSD AUTO → OSD ON → OSD OFF →

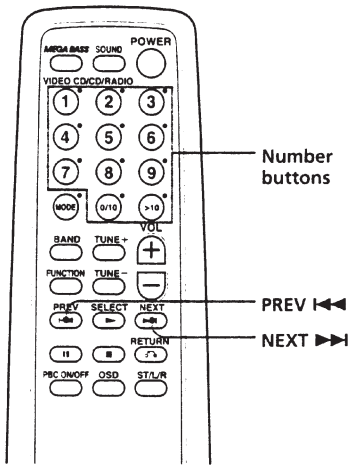
When "OSD AUTO" is selected, the operating status appears for a few seconds on the TV screen when you press a button or when the operating status is changed. When "OSD ON" is selected, the operating status is always displayed.

Various indications displayed on the TV screen

Indication	What it means
PBC ON	PBC mode has been switched to ON
PBC OFF	PBC mode has been switched to OFF
SELECT	Waiting for you to select something (For instance, at the time of menu display)
▶▶I	Locating the next or succeeding tracks or scenes
I◀◀	Locaing the current or preceding tracks or scenes
▶▶	Searching forward
◀◀	Searching backward
STEREO	Hearing stereo sound
L-CH	Hearing left channel sound
R-CH	Hearing right channel sound
INVALID	Inappropriate buttons were pressed

Locating a specific track or scene

While playing a VIDEO CD, you can quickly locate any track or specific point in a track by observing the TV screen.



Tip

When you locate a track or scene numbered over 10, press >10 first, then the corresponding number buttons.

Example:

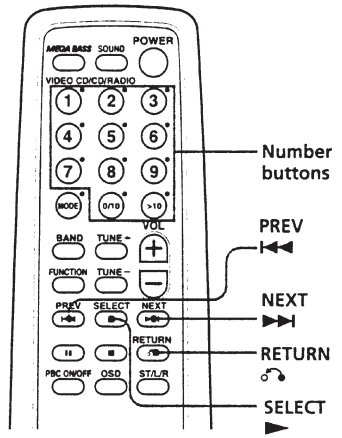
To play track (or scene) number 23, press >10 first, then 2 and 3.

To locate	Press
a specific track or scene directly (when "PBC OFF" is selected)	the number button of the track or scene
a point while monitoring the picture	NEXT ▶▶| (forward) or the PREV |◀◀ (backward) while playing and hold down until you find the point

Playing a VIDEO CD with PBC functions

Using the PBC functions , you can play a VIDEO CD with PBC functions (Version 2.0) (simple interactive software, software with search functions, etc.)

Refer also to the instructions supplied with the VIDEO CD, as the operating procedure may differ according to the VIDEO CD.



1 Insert a VIDEO CD with PBC functions.

2 Press SELECT ►.

PBC playback starts.

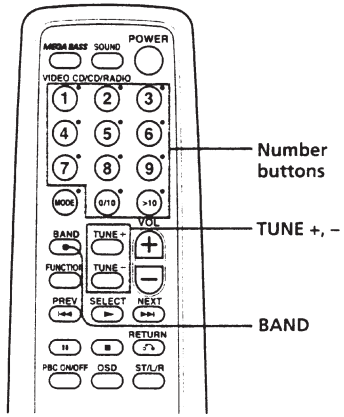
Follow the instructions or scenes appearing on the TV screen.

When	Press
you want to select an item number	the number buttons of the item you want, then SELECT ► on the remote MENU + or – to select the item number, then ▶II on the player
you want to go back to the top or the previous menus*	RETURN ↶ (The actual operation varies among the VIDEO CDs. Refer to the instructions supplied with the VIDEO CDs.)
you want to locate the next or succeeding scenes	NEXT ▶▶|
you want to locate the previous or preceding scenes	PREV |◀◀

* Where to go back differs according to the VIDEO CD you are playing.

Presetting radio stations

You can store radio stations into the player's memory. You can preset up to 24 radio stations, 12 for each band in any order.



On the player

1 Press BAND to select the band.
2 Set the frequency to the station you want.
3 Hold down DISPLAY•ENTER/MEM for 2 seconds. "PRESET" and a preset number flash.
4 Decide on a preset number for the station (1 to 12) by pressing PRESET + or –.
5 Press DISPLAY•ENTER/MEM.

1 Press BAND to select the band.

2 Set the frequency to the station you want.

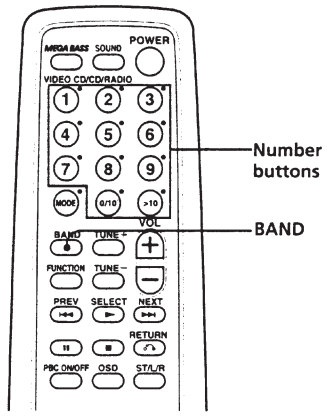
3 Hold down the number button that you want to preset the new station on for 2 seconds.

To select the preset number over 10, press >10 first, then the corresponding number buttons. You need to hold down the last number button to enter for 2 seconds. (Example: To select 12, press >10 and 1, then hold down 2 for 2 seconds.)

The new station replaces the old one.

Playing preset radio stations

Once you've preset the stations, use the number buttons on the remote or PRESET +/– on the player to tune in to your favorite stations.



On the player

1 Press BAND to select the band.
2 Press PRESET + or – to tune in the stored station.

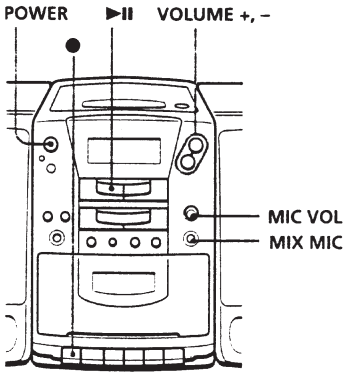
1 Press BAND to select the band.

2 Press the number buttons to tune in the stored station.

To tune in a preset station over 10, press >10 first, then the corresponding number buttons.

(Example: To tune in the preset station 11, press >10, and then press 1 and 1.)

Recording through a microphone/Using as a PA system



You can record sound using a microphone (not supplied) or use the player as a public address system.

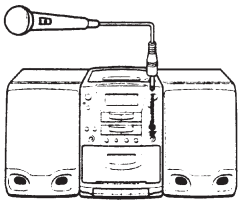
Tip

You can mix audio/VIDEO CD or radio sounds and record them by adding your voice or other audio through the microphone. (See "Singing along the KARAOKE" on page 27.)

Notes

- Acoustic feedback (howling) tend to occur when you use a microphone with echo function.
- If acoustic feedback (howling) occurs, turn down the volume or move the microphone away from the speaker.

Recording through a microphone



1 Plug the microphone into the MIX MIC jack and turn on the microphone if it has a power switch.

2 Turn on the power.

3 Press FUNCTION on the remote until "TAPE" appears in the display.

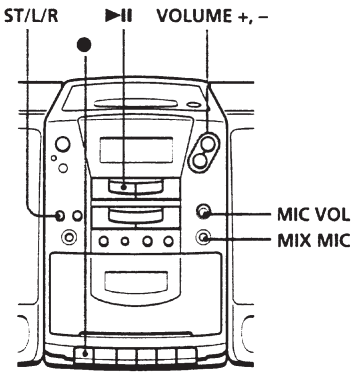
4 Insert a cassette for recording into the deck and press ● to start recording.

Using as a PA system

1 Do steps 1 - 3 above.

2 Sing or speak into the microphone and adjust the volume using MIC VOL or VOLUME +/–.

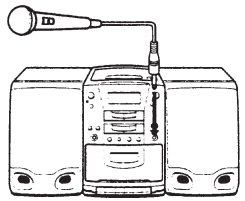
Singing along the KARAOKE



You can sing along the KARAOKE by using a microphone (not supplied) and a KARAOKE multiplex audio/VIDEO CD.

Notes

- Acoustic feedback (howling) tend to occur when you use a microphone with echo function.
- If acoustic feedback (howling) occurs, turn down the volume or move the microphone away from the speaker.



1 Plug the microphone into the MIX MIC jack and turn on the microphone if it has a power switch.

2 Insert a KARAOKE multiplex audio/VIDEO CD.

3 Press ►II.

Play starts.

4 Press ST/L/R repeatedly until you can hear the accompaniment from both speakers.

5 Adjust the microphone volume turning the MIC VOL (volume) control.

6 Adjust the volume of the player using VOLUME + or –.

7 Starts to sing.

To record KARAOKE sound and your voice

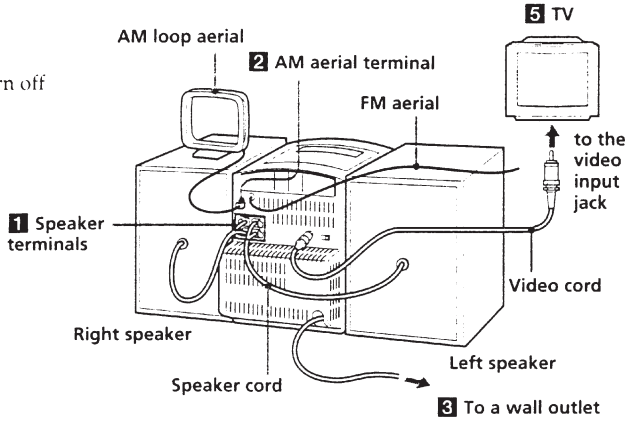
1 Insert a cassette for recording.

2 Do steps 1 to 6 above.

3 Press ● (► is depressed automatically).

Hooking up the system

Make sure you turn off the power before making any connections.



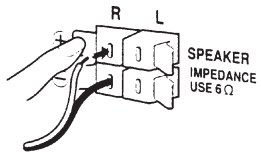
Note

Connect the supplied speakers to this player. If you connect any other speakers or equipment, a malfunction may occur.

1 Hooking up the speakers

1 Twist the speaker cable coating and strip it from the end of the cable.

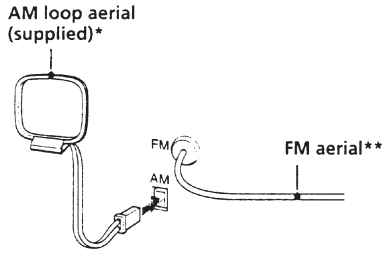
2 Connect the black wire to (–) minus and the red wires to (+) plus terminals:the right speaker wires to the R and the left speaker wires to the L terminals.



Note

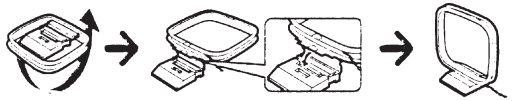
Be sure to turn off the power of the player before you set the MAIN POWER switch to OFF.

2 Hooking up the aerials



*Reorient the aerial to improve broadcast reception.
**Keep the aerial as horizontal as possible.

Setting up the AM loop aerial



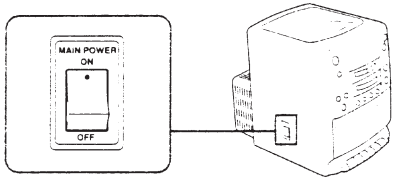
3 Connecting the AC power cord

Connect the AC power cord to the wall outlet.

The POWER/STANDBY indicator lights up to indicate when the player is connected to the power source. The indicator lights regardless of whether the power is on or off.

4 Setting the MAIN POWER switch

Set the MAIN POWER switch on the side of the player to ON.



continued

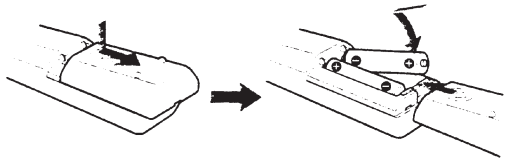
5 Connecting the TV

To use the VIDEO CD, connect the TV equipped with the video input jack in the following way:

1 Connect the supplied video cord to the VIDEO OUT jack of the player and the video input jack of the TV.

2 Turn on the TV and set the input mode selector on the TV to the proper position.

6 Inserting batteries into the remote



Insert two R6 (size AA) batteries (not supplied)

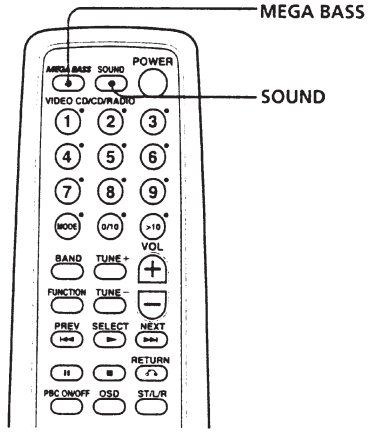
Replacing batteries

With normal use, the batteries should last for about six months. When the remote no longer operates the player, replace all the batteries with new ones.

Selecting the audio emphasis

(Sound Mode/MEGA BASS)

You can adjust the audio emphasis of the sound you are listening to.



Selecting the sound characteristic

Press SOUND to select the audio emphasis you want.

Choose	To get
SOUND	powerful, clean sounds, emphasizing low and high range audio
SOUND	percussive sounds, emphasizing bass audio
SOUND	the presence of vocals, stressing middle range audio
SOUND	the whole dynamic range for music such as classical music
SOUND	light, bright sounds emphasizing high and middle range audio

Reinforcing the bass sound

Press MEGA BASS.

"MEGA BASS" appears in the display. To return to normal sound, press the button again.

Precautions

On safety

- As the laser beam used in the CD player section is harmful to the eyes, do not attempt to disassemble the casing. Refer servicing to qualified personnel only.
- Should any solid object or liquid fall into the player, unplug the player, and have it checked by qualified personnel before operating it any further.

On power sources

- The player is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the player itself has been turned off.
- When the batteries are not to be used, remove them to avoid damage that can be caused by battery leakage or corrosion.
- The nameplate indicating operating voltage, power consumption, etc. is located at the rear.

On placement

- Do not leave the player in a location near heat sources, or in a place subject to direct sunlight, excessive dust or mechanical shock.
- Do not place the player on an inclined or unstable place.
- Do not place anything within 10 mm of the side of the cabinet. The ventilation holes must be unobstructed for the player to operate properly and prolong the life of its components.
- If the player is left in a car parked in the sun, be sure to choose a location in the car where the player will not be subjected to the direct rays of the sun.
- Since a strong magnet is used for the speakers, keep personal credit cards using magnetic coding or spring-wound watches away from the player to prevent possible damage from the magnet.

On operation

- If the player is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lens inside the CD player section. Should this occur, the player will not operate properly. In this case, remove the CD and wait about an hour for the moisture to evaporate.
- If the player has not been used for a long time, set it in the playback mode to warm it up for a few minutes before inserting a cassette.

If you have any questions or problems concerning your player, please consult your nearest Sony dealer.

Notes on CDs

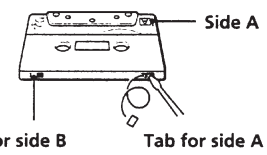
- Before playing, clean the CD with a cleaning cloth. Wipe the CD from the center out.

- Do not use solvents such as benzine, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.
- Do not expose the CD to direct sunlight or heat sources such as hot air ducts, nor leave it in a car parked in direct sunlight as there can be a considerable rise in temperature inside the car.
- Do not stick paper or sticker on the CD, nor scratch the surface of the CD.
- After playing, store the CD in its case.

If there is a scratch, dirt or fingerprints on the CD, it may cause tracking error.

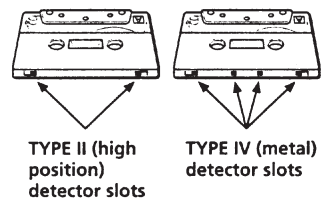
Notes on cassettes

- Break off the cassette tab from side A or B to prevent accidental recording. If you want to reuse the tape for recording, cover the broken tab with adhesive tape.



- To record on a tape with its tab broken off, cover the respective tab hole for side A or B with adhesive tape.

  Take care not to cover the detector slots on TYPE II (high position) or TYPE IV (metal) cassettes. If the slots are covered, the automatic tape selection system will not operate correctly.



- The use of a cassette with more than 90 minutes of play time is not recommended except for long, continuous recording or playback.

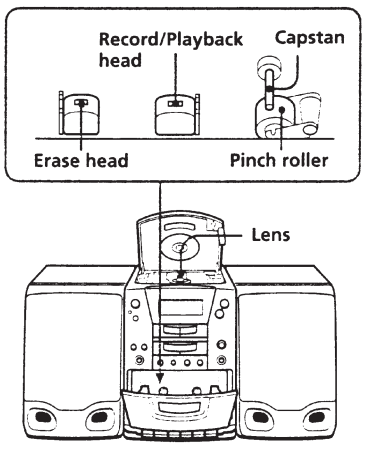
Maintenance

Cleaning the lens

If the lens becomes dirty, it may cause a skipping of sound during CD operation. Clean with a commercially available blower.

Cleaning the tape heads and tape path

Wipe the heads, the pinch roller and the capstan with a cleaning swab slightly moistened with cleaning fluid or alcohol after every 10 hours of operation for optimum playback and recording quality. To make the best possible recording, however, we recommend that you clean all surfaces over which tape travels before each recording.



After cleaning, insert a tape when the areas cleaned are completely dry.

Demagnetizing the tape heads

After 20 to 30 hours of use, enough residual magnetism will have built up on the tape heads to begin to cause loss of high frequency sound and hiss. At this time, you should demagnetize the heads and all metal parts in the tape path with a commercially available tape head demagnetizer.

Cleaning the cabinet

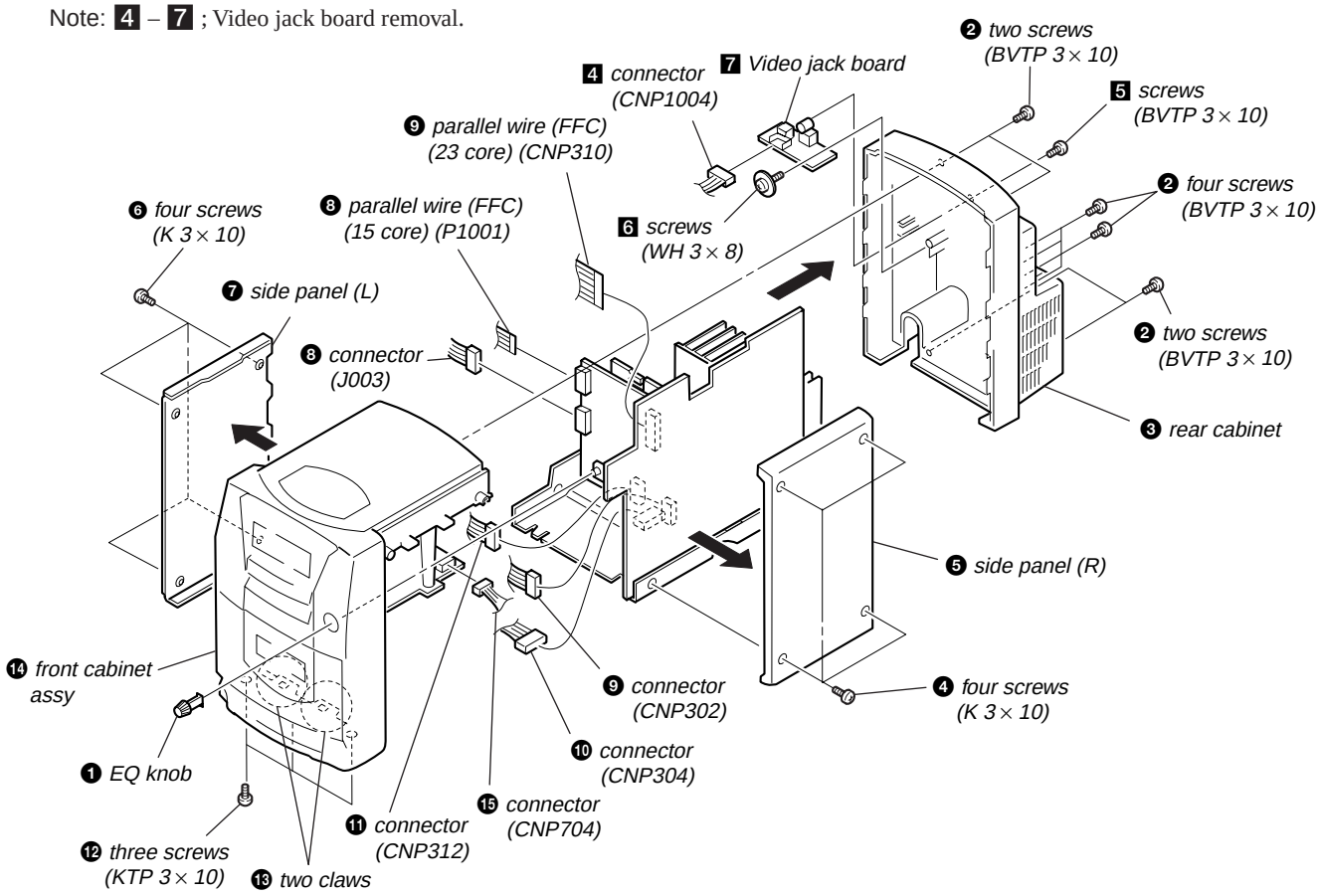
Clean the cabinet, panel and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent, such as alcohol or benzine.

SECTION 2
DISASSEMBLY

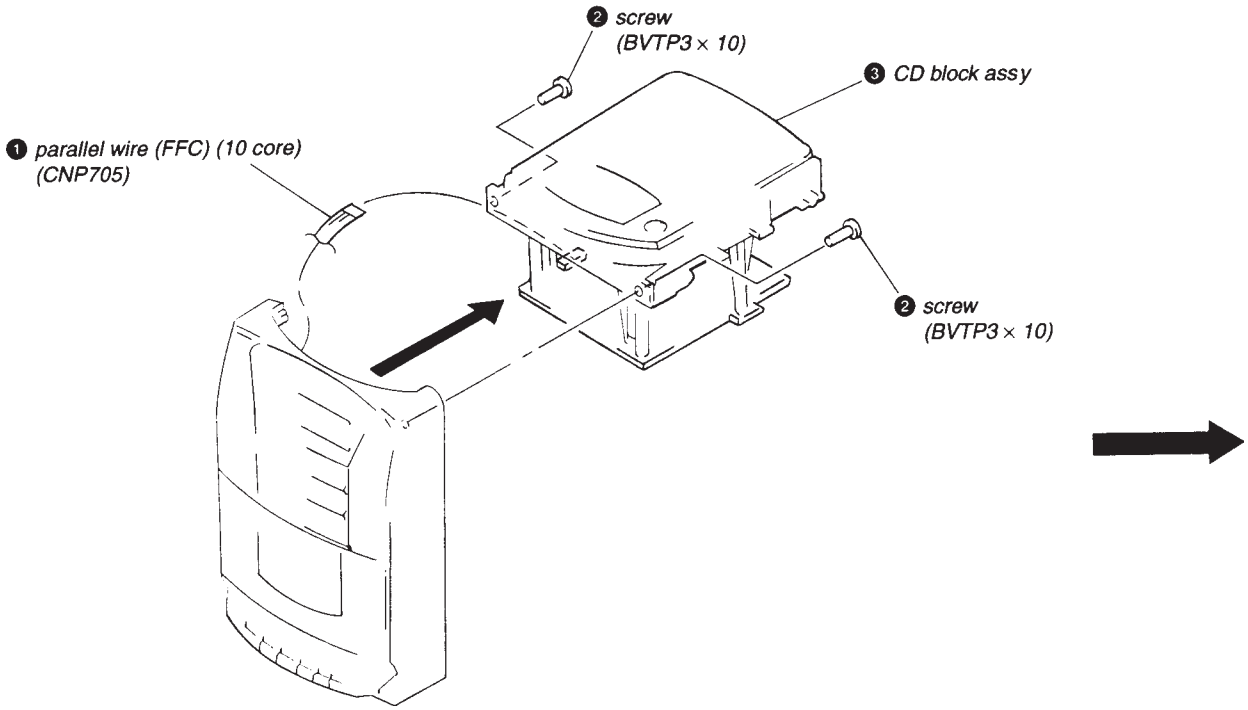
Note : Follow the disassembly procedure in the numerical order given.

2-1. FRONT CABINET ASSY

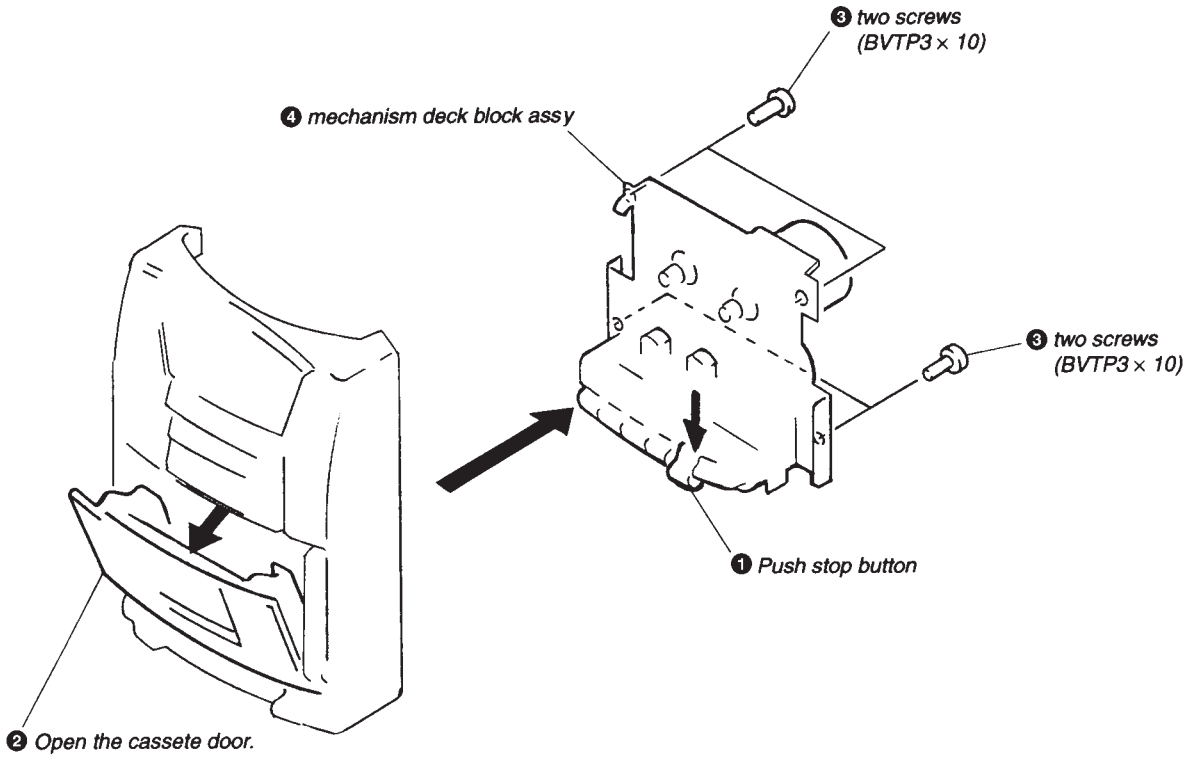
Note: 4 – 7 ; Video jack board removal.


❷ two screws (BVTP 3× 10)
4 connector (CNP1004)
7 Video jack board
5 screws (BVTP 3× 10)
❾ parallel wire (FFC) (23 core) (CNP310)
❷ four screws (BVTP 3× 10)
❻ four screws (K 3× 10)
❽ parallel wire (FFC) (15 core) (P1001)
6 screws (WH 3× 8)
❼ side panel (L)
❷ two screws (BVTP 3× 10)
❽ connector (J003)
❸ rear cabinet
❺ side panel (R)
⓮ front cabinet assy
❾ connector (CNP302)
❹ four screws (K 3× 10)
❿ connector (CNP304)
❶ EQ knob
⓯ connector (CNP704)
⓫ connector (CNP312)
⓬ three screws (KTP 3× 10)
⓭ two claws

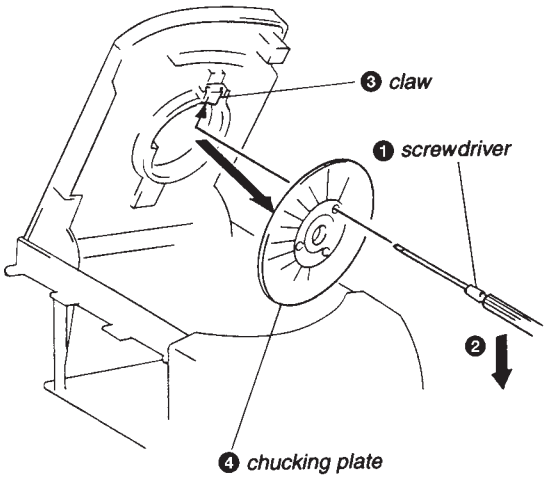
2-2. CD BLOCK ASSY



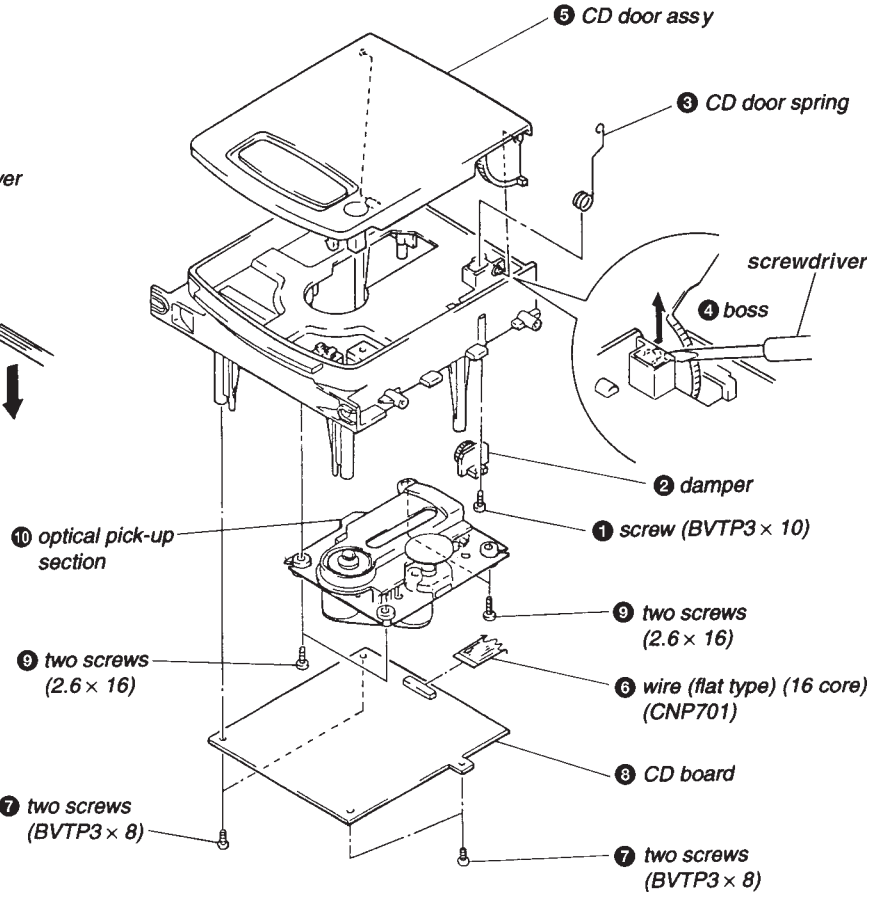
2-3. MECHANISM DECK BLOCK ASSY



2-4. CHUCKING PLATE



2-5. CD DOOR ASSY, CD BOARD, OPTICAL PICK-UP SECTION


❺ CD door assy
❸ CD door spring
screwdriver
❹ boss
❷ damper
❶ screw (BVTP3 × 10)
❿ optical pick-up section
❾ two screws (2.6 × 16)
❾ two screws (2.6 × 16)
❻ wire (flat type) (16 core) (CNP701)
❽ CD board
❼ two screws (BVTP3 × 8)
❼ two screws (BVTP3 × 8)

SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alchool-moistened swab:
   record/playback head, erase head, capstans, pinch roller, rubber belts
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	30 – 80g•cm (0.42 – 1.12 oz•inch)
FWD back tension		1.5 – 5.5g•cm (0.021 – 0.07 oz•inch)
Fast Forward	CQ-201B	50 – 130g•cm (0.77 – 1.80 oz•inch)
Rewind		50 – 130g•cm (0.77 – 1.80 oz•inch)

Tape Tension Measurement

MODE	Torque Meter	Meter Reading
FWD	CQ-403A	more than 100g (more than 3.53 oz)

SECTION 4
ELECTRICAL ADJUSTMENTS

TAPE RECODER SECTION

1dB = 0.775V

1. The sdjustments should be perfomed in the order given in the service manual. (As a general rule. Playback circuit adjustment should be completed before performing recording circuit adjustment.)
2. The adjustments should be performed for both L-ch and R-ch unless otherwise indicated.

Standard output level

Output Pin	SP OUT	HP OUT
Load impedance	6 Ω	32 Ω
Output signal level	0.775 V (0dB)	0.25 V (–10dB)

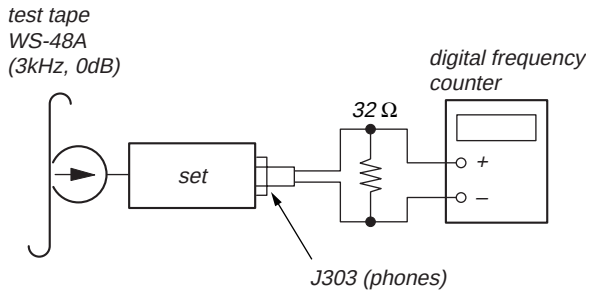
Test tape

Test Tape	Signal	Used for
WS-48A	3kHz, 0dB	Tape speed adjustment
P-4-A063	6.3kHz, –10dB	Head azimuth adjustment.

Tape Speed Adjustment

Procedure :

Mode : Playback

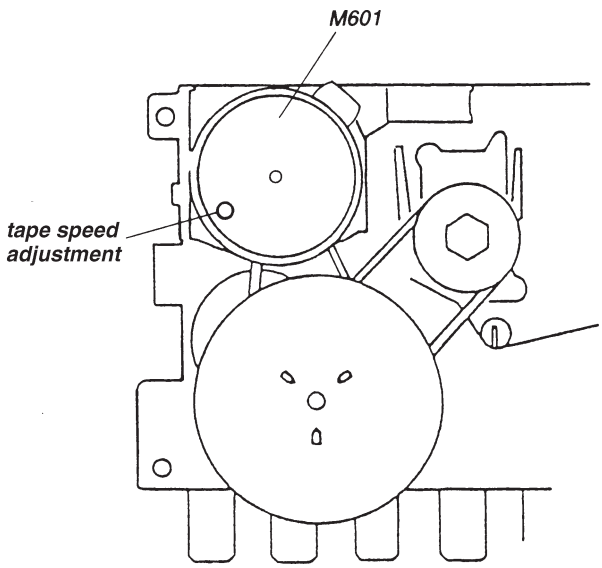


Adjustment Value : normal tape speed

Speed checker	Digital frequency counter
–1.0 to 1.0%	2,970 – 3,030Hz

Frequency difference between the beginning and the end of the tape should be within 1% (30Hz).

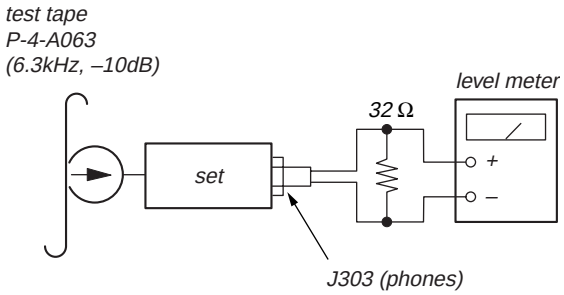
Adjustment Location :



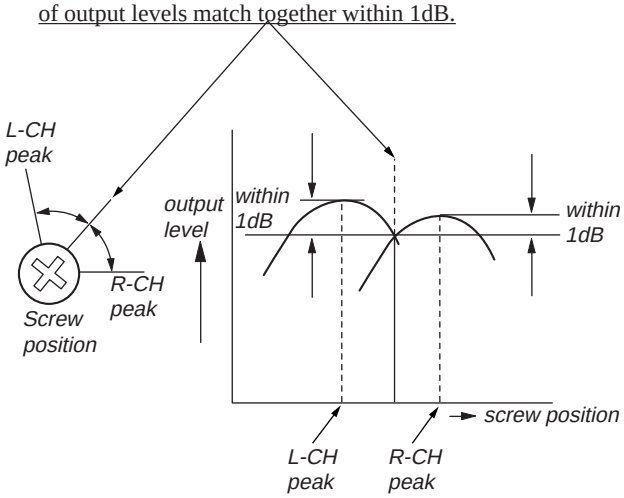
Record/Playback Head Azimuth Adjustment

Procedure:

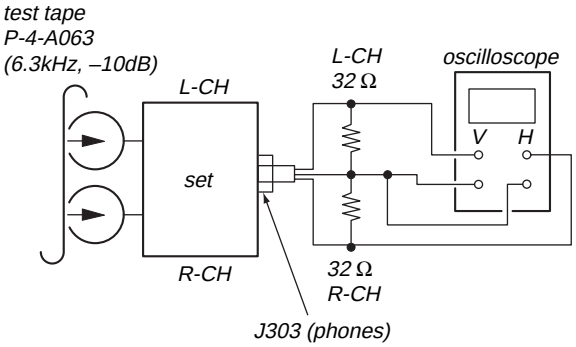
1. Mode : Playback

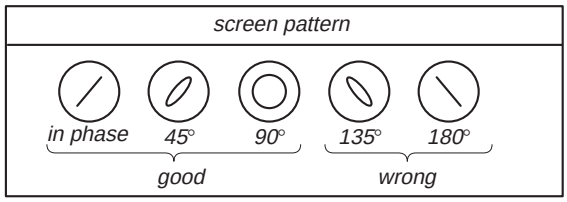


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



3. Phase Check
   Mode : Playback

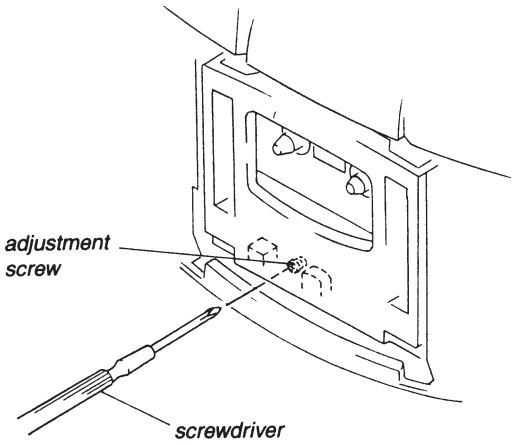




Note: Adjustment must be completed by clockwise turning of adjustment screw.
After the adjustment, lock the screws with locking compound.

Adjustment Location : Record/Playback head

- Remove the cassette door.



TUNER SECTION

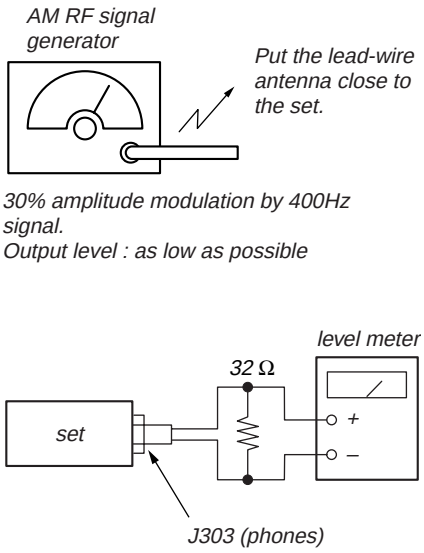
0 dB = 1 µV

Precautions in Repairing

Note : As a FM front end (U1) is difficult to repair if faulty, replace it with new one.
(FM is no adjustment)

[AM]

BAND : AM
Signal generator



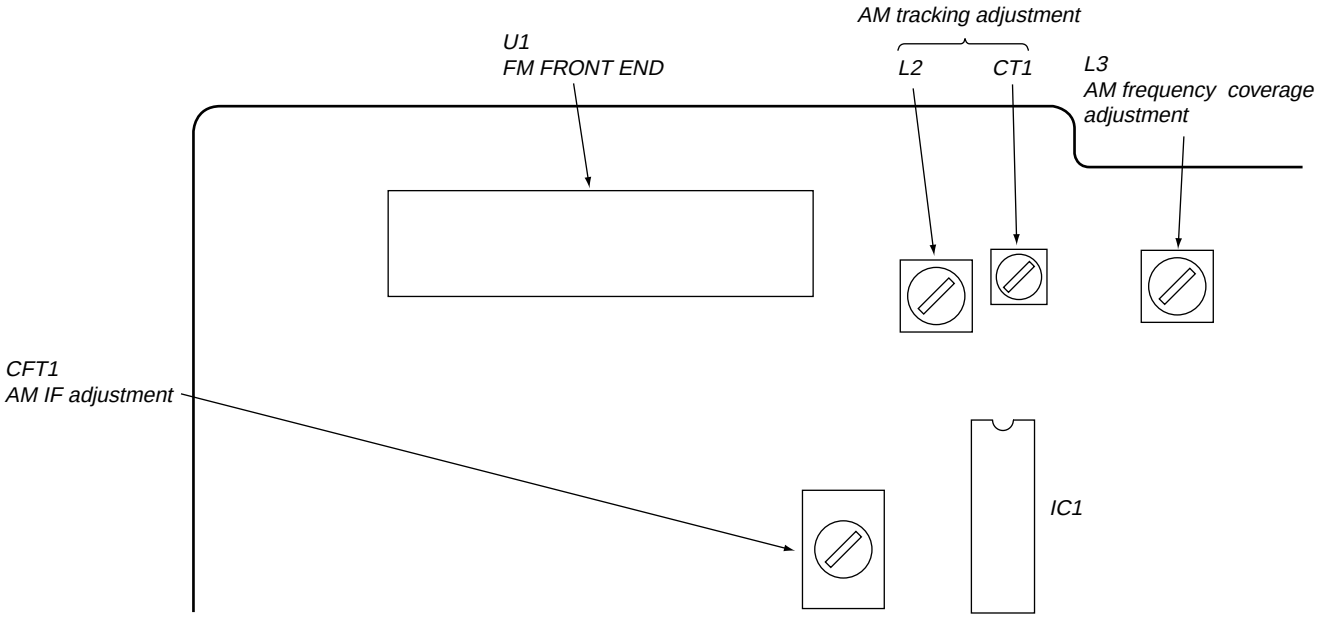
- Repeat the procedures in each adjustment several times for the maximum level meter indication.
- The frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
CFT1	450kHz

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L2	612kHz
CT1	1,404kHz

AM FREQUENCY COVERAGE ADJUSTMENT		
Adjust part	Frequency display	Reading on digital voltmeter
L3	531kHz	1.0V
Confirmation	1,611kHz	5.0V

Adjustment Location : MAIN board (Component side)



CD SECTION

Notes on Adjustment

1. Perform adjustments in the order given.
2. Use the disc (YEDS-18, Parts No. 3-702-101-01) only when so indicated.

• Focus Search Check

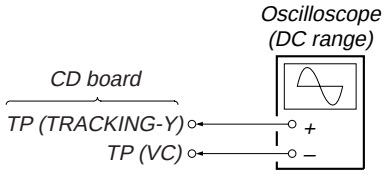
1. Press the CD ▶II key. (Focus search operation is performed continuously.)
2. Look at the Optical pick-up objective lens and confirm that it moves up and down smoothly, with no catching or abnormal noises.
3. Press ■ button.
   Confirm that focus search operation stops. If it does not, press ■ button again longer.

Note : When the malfunction is occurred by mis-passing other keys, turn off the power and check again.

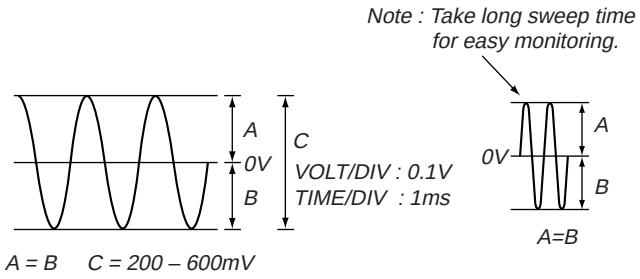
E-F Balance Adjustment

This adjustment is to be done when the optical pick-up is replaced.

Adjustment Procedure:



1. Connect the oscilloscope to test point TP (VC) and TP (TRACKING-Y) on CD board.
2. Insert the disc (YEDS-18) in and close the lid for CD.
3. Press ▶II button.
4. Press the search button for focus search mode.
5. Adjust RV702 so that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.
6. Confirm the waveform is exactly symmetrical when a track jump.

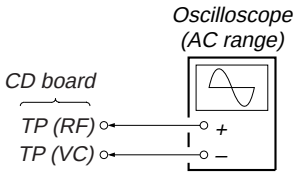


Adjustment Location: CD board (See page 27)

Focus Bias Adjustment

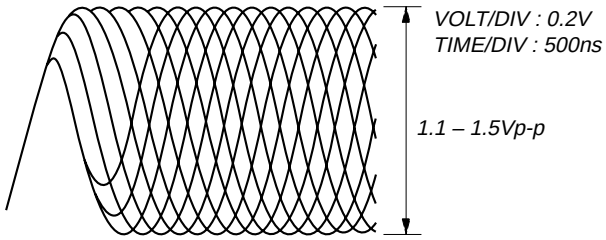
This check is to be done when the optical pick-up is replaced.

Adjustment Procedure:



1. Connect the oscilloscope to test point TP (VC) and TP (RF) on CD board.
2. Insert the disc (YEDS-18) in and close the lid for CD.
3. Press ▶II button.
4. Adjust RV701 so that the oscilloscope wavewform is as shown in the figure below (eye pattern).
   A good eye pattern means that the diamond shape (◊) in the center of the waveform can be clearly distinguished.

• RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensivity.

Adjustment Location: CD board (See page 27)

REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.
However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.
Focus/Tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.
However, as these reciprocate, the adjustment is at the point where both are satisfied.

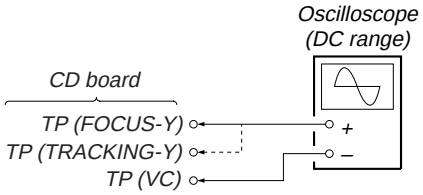
- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for STOP ➡ CD ▶II or automatic selection (◀◀ , ▶▶ buttons pressed). (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP ➡ CD ▶II or automatic selection (◀◀ , ▶▶ buttons pressed.)	—	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	—	low
• More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

– Simple Adjustment –

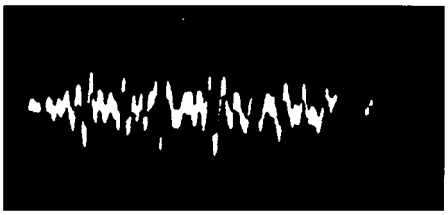
Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the primary adjustment are only a little different, return the controls to the original position.



Procedure:

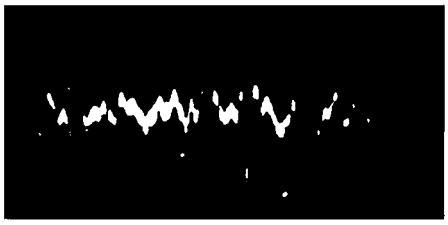
1. Keep the set horizontal.
   If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.
2. Connect the oscilloscope TP (FOCUS-Y) and TP (VC) on the CD board.
3. Insert the disc (YEDS-18) in and close the lid for CD.
4. Press the ▶II button.
5. Adjust RV704 so that the waveform is as shown in the figure below. (Focus gain adjustment)

• Good Example

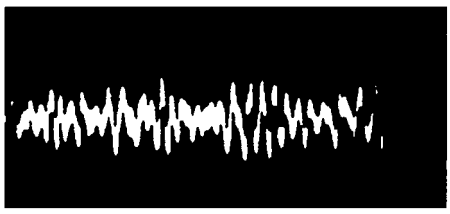


• Incorrent Examples (DC level changes more than on adjusted waveform)

low focus gain



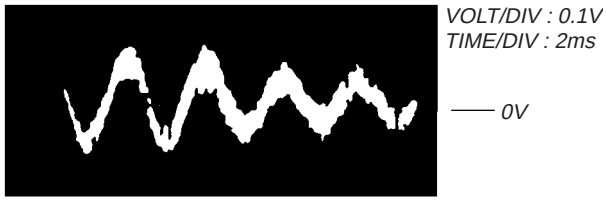
high focus gain



8. Connect the oscilloscope between TP (TRACKING-Y) and TP (VC).
9. Adjust RV703 so that the waveform is as shown in the figure below. (tracking gain adjustment)

• Incorrect Examples (fundamental wave appears)

low tracking gain

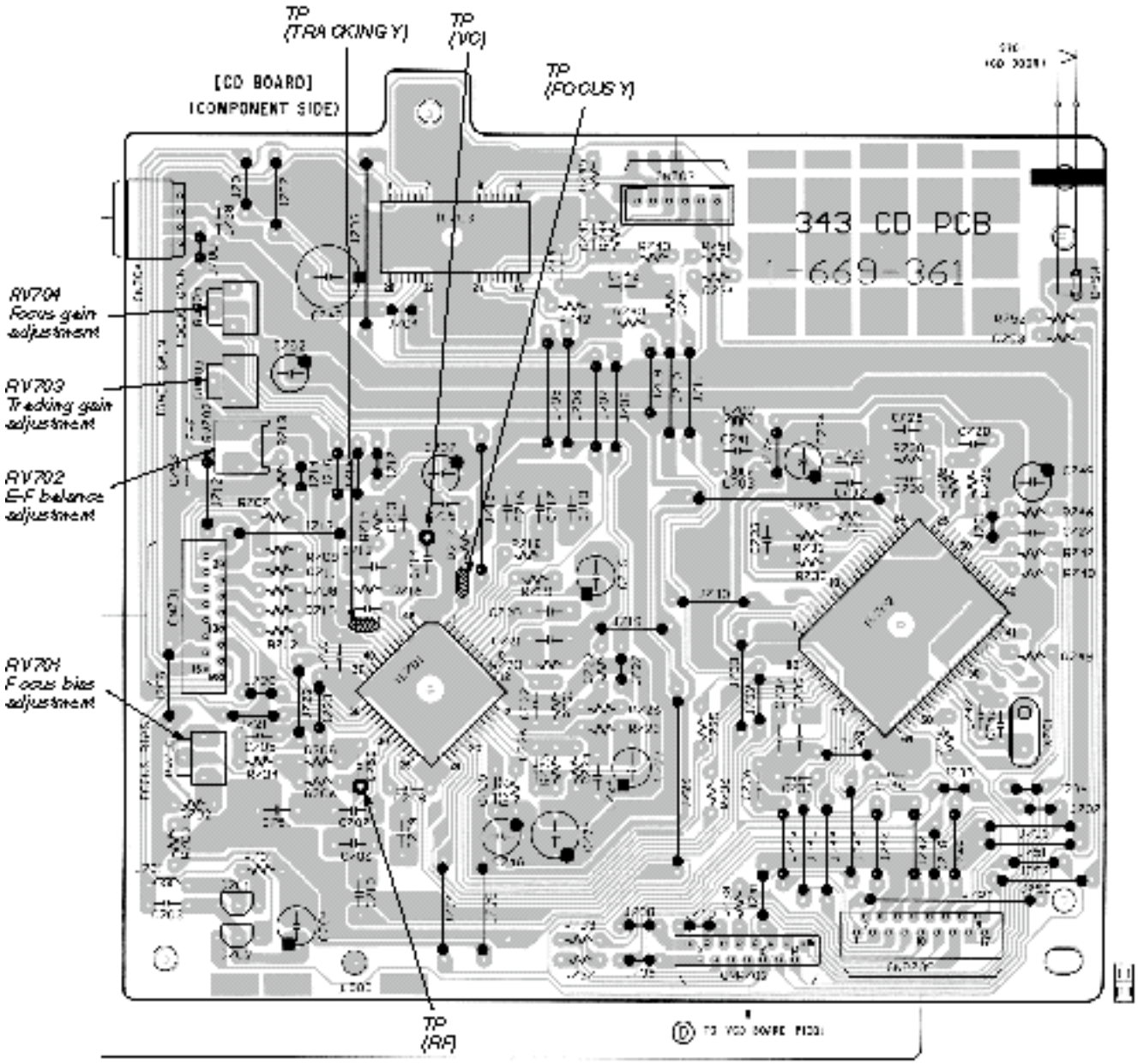


high tracking gain
(high fandametial wave than for low gain)

Note:
VOLT/DIV: with the 10:1 probe in used.

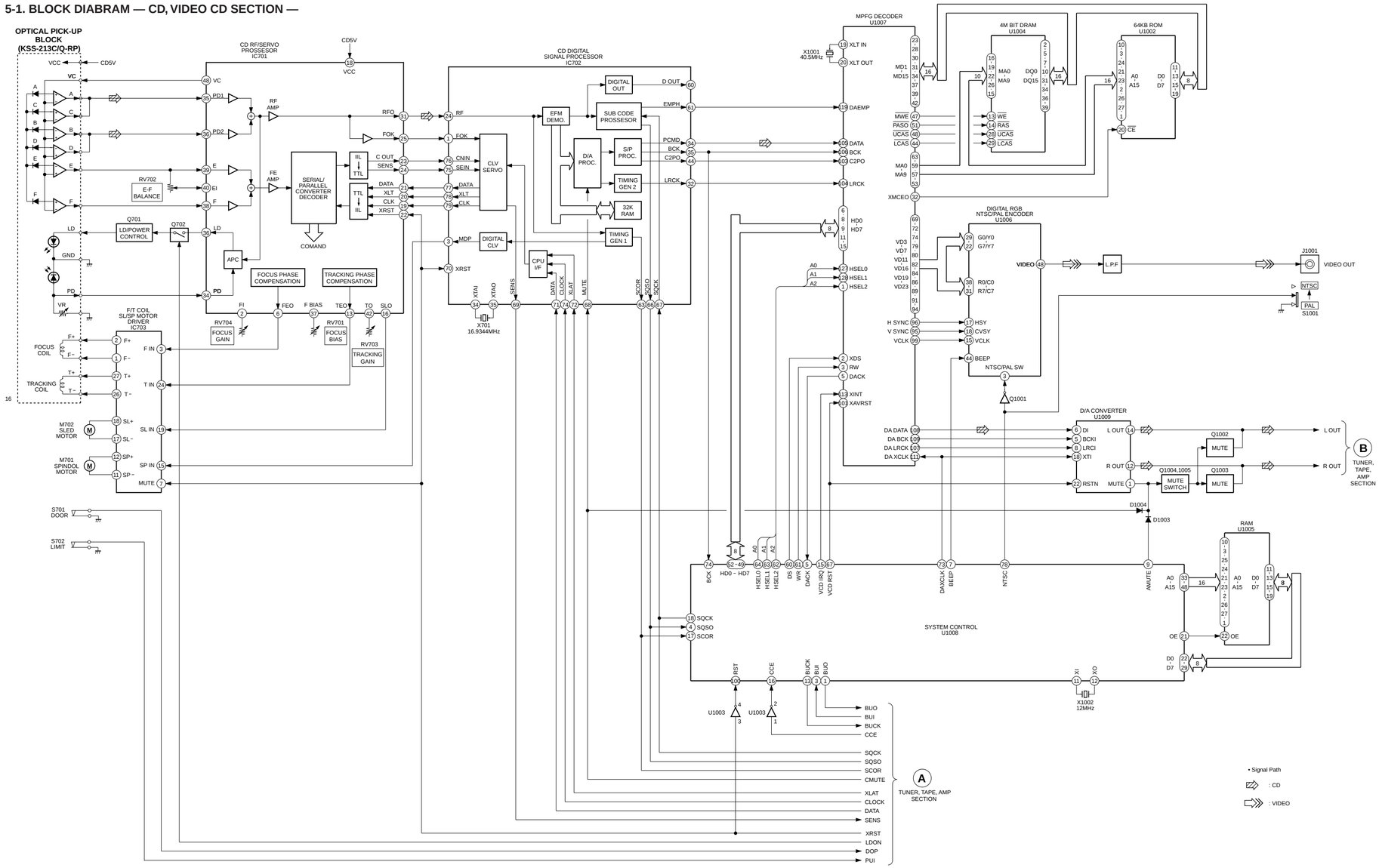
Adjustment Location: CD board (See page 27.)

Adjustment Location:

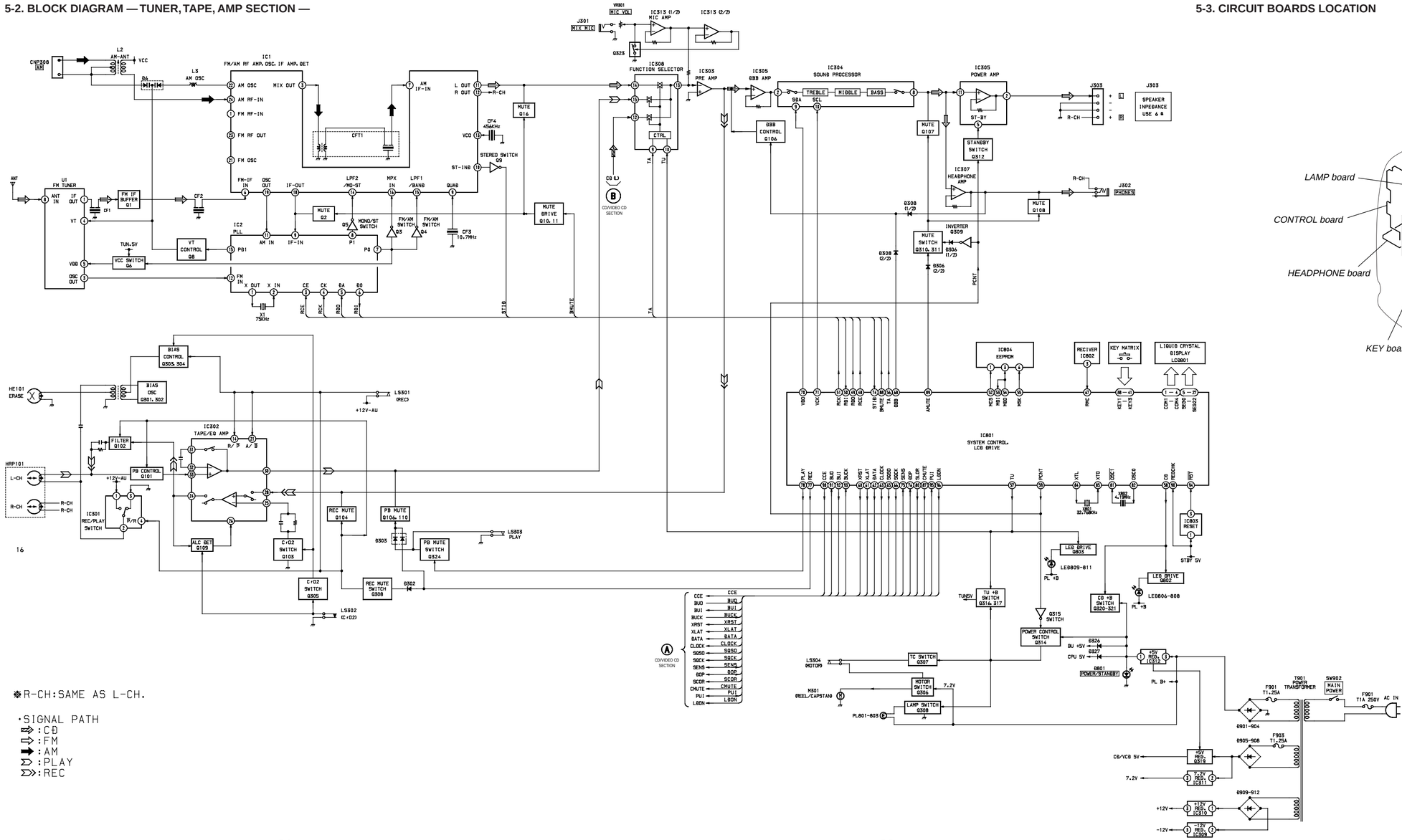


SECTION 5
DIAGRAMS

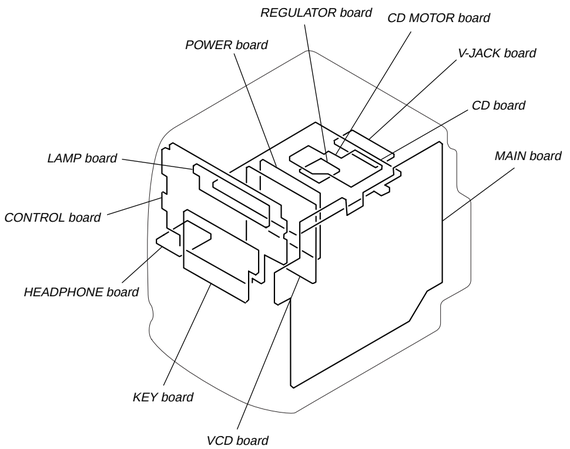
5-1. BLOCK DIABRAM — CD, VIDEO CD SECTION —



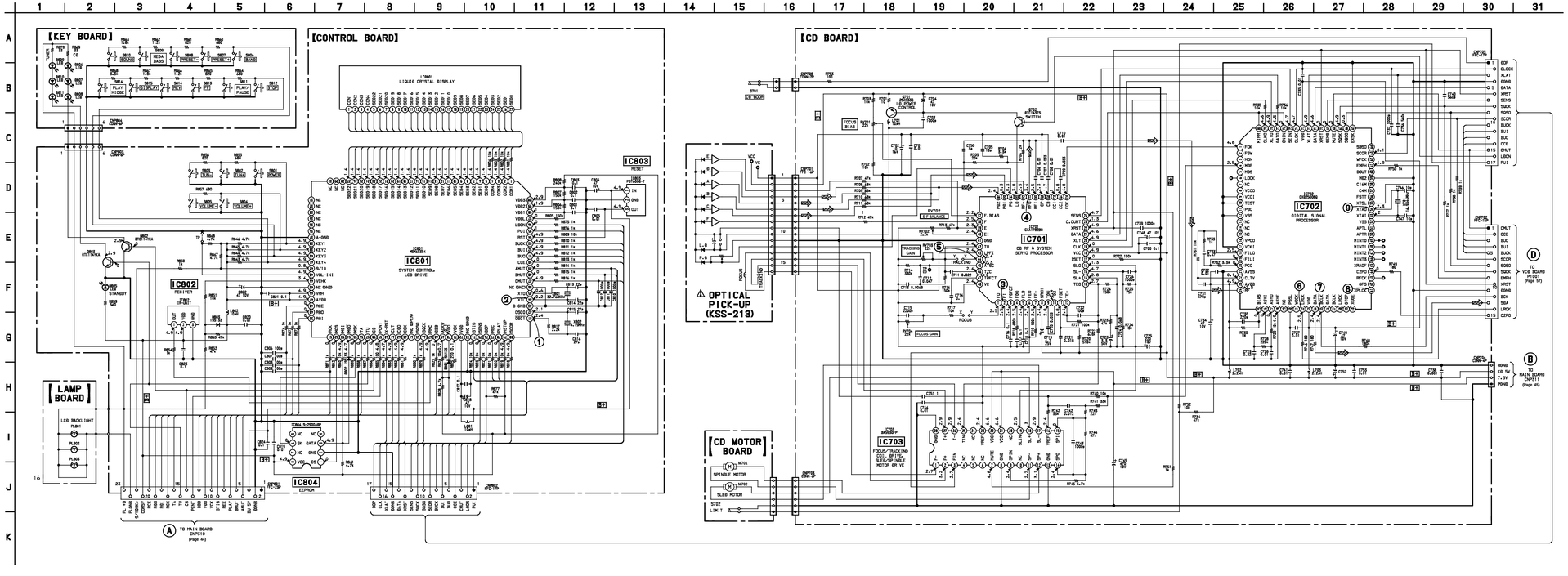
5-2. BLOCK DIAGRAM — TUNER, TAPE, AMP SECTION —



5-3. CIRCUIT BOARDS LOCATION



5-5. SCHEMATIC DIAGRAM — CD, SYSTEM CONTROL SECTION —



• Waveform

❶ IC801 ⑭
4.19 MHz, 4.6Vp-p

❷ IC801 ⑫
32.768 kHz, 1.2Vp-p

❸ IC701 ② 100 mV/DIV 100 ns/DIV
20µs

❹ IC701 ⑮ 200 mV/DIV 500ns/DIV
1.3 ± 0.2 Vp-p

❺ IC701 ⑯ 100 mV/DIV 100ns/DIV
240 ns

❻ IC702 ⑯
480 ns, 4.8 Vp-p

❼ IC702 ⑰
240 ns, 4.8 Vp-p

❽ IC702 ⑱
20µs, 4.8Vp-p

❾ IC702 ⑲
16.934 MHz, 4.8 Vp-p

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ⚠ : internal component.
- ▭ : panel designation.

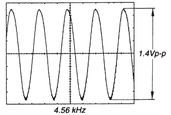
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal CD conditions.
  no mark : CD
  ※ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

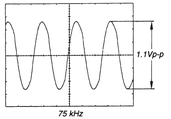
5-6. SCHEMATIC DIAGRAM — TUNER, TAPE, AMP SECTION —

• Waveform

❶ IC1 ⑮



❷ IC2 ①



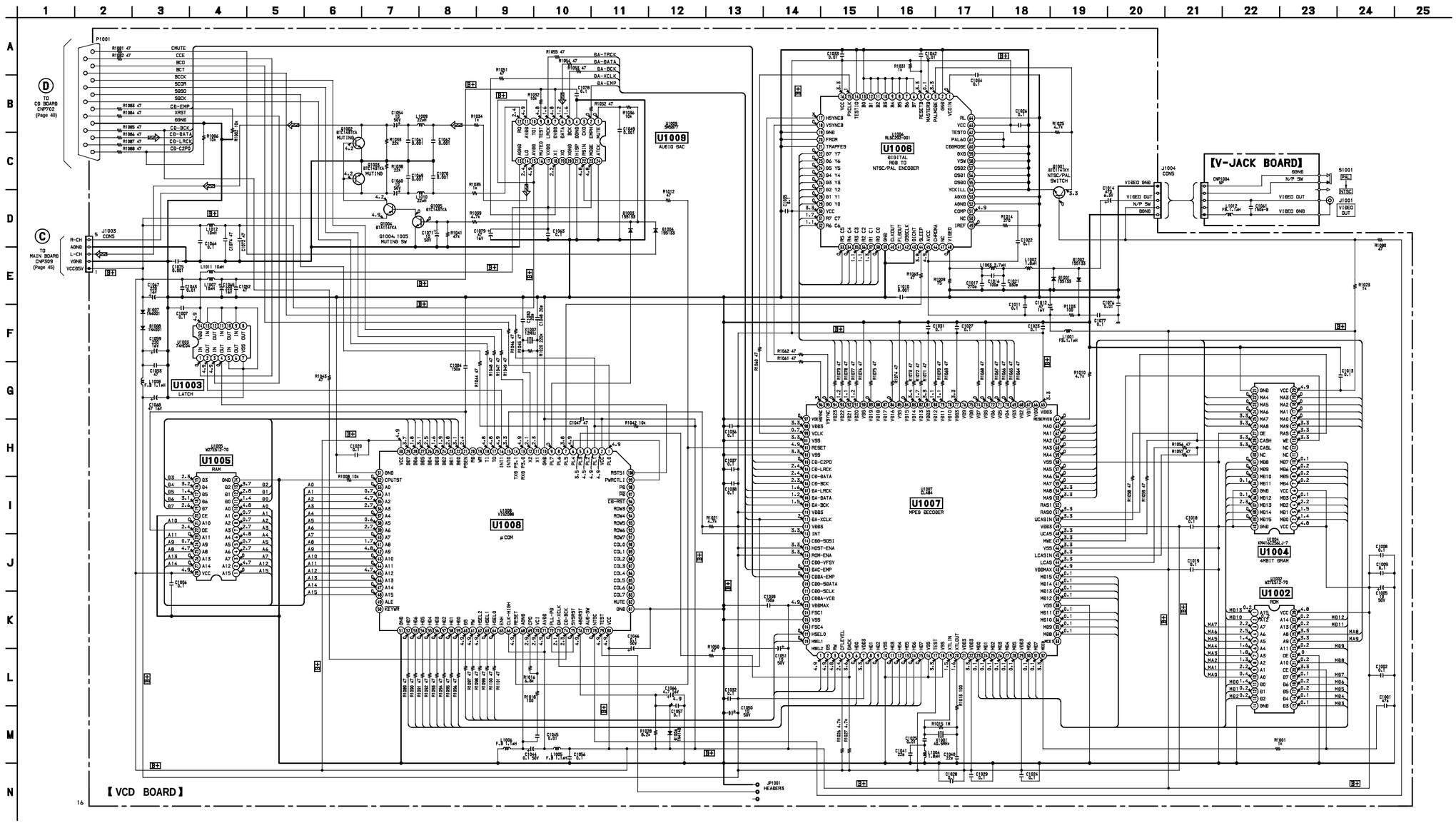
Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ⚠ : internal component.
- [ ] : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- [B+] : B+ Line.
- [B-] : B- Line.
- [ ] : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
  << >> : REC
  [ ] : PB
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⇨ : PB
  ⇨ : REC
  ⇨ : CD

5-9. SCHEMATIC DIAGRAM — VIDEO CD SECTION —



Note on Schematic Diagram:

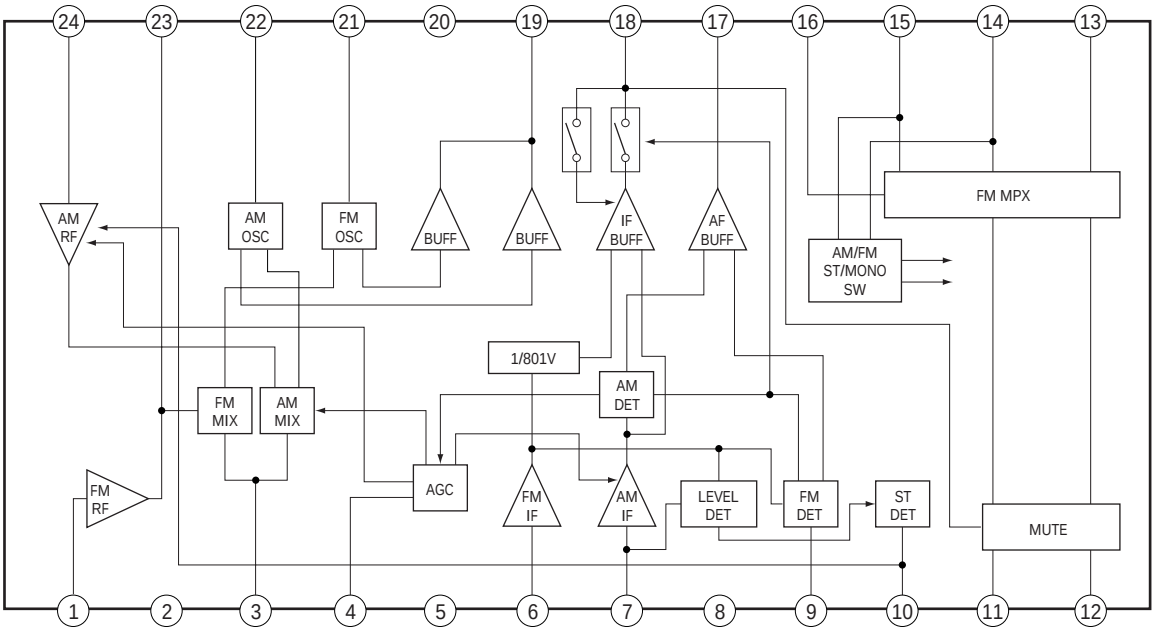
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

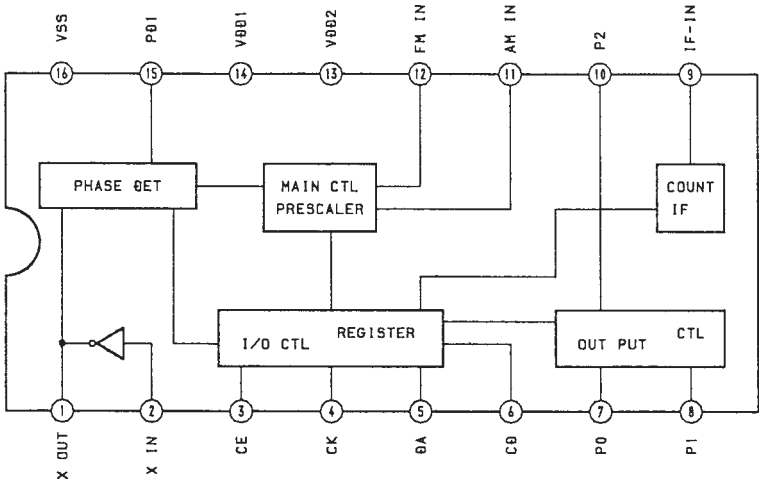
- B+ : B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal CD conditions.
  no mark : CD
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

5-10. IC BLOCK DIAGRAMS

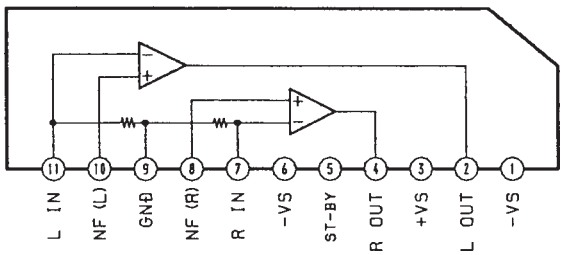
IC1 TA2008AN



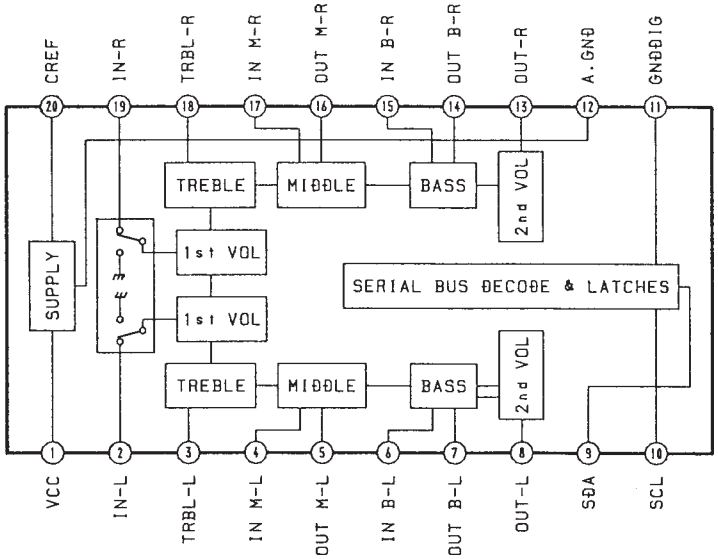
IC2 BU2614



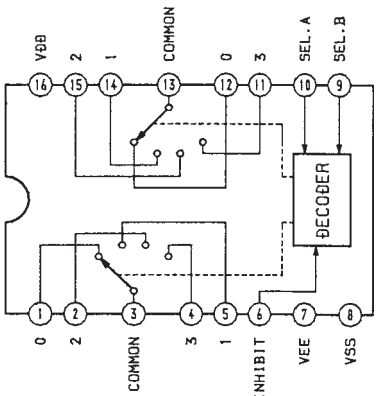
IC306 TDA7265



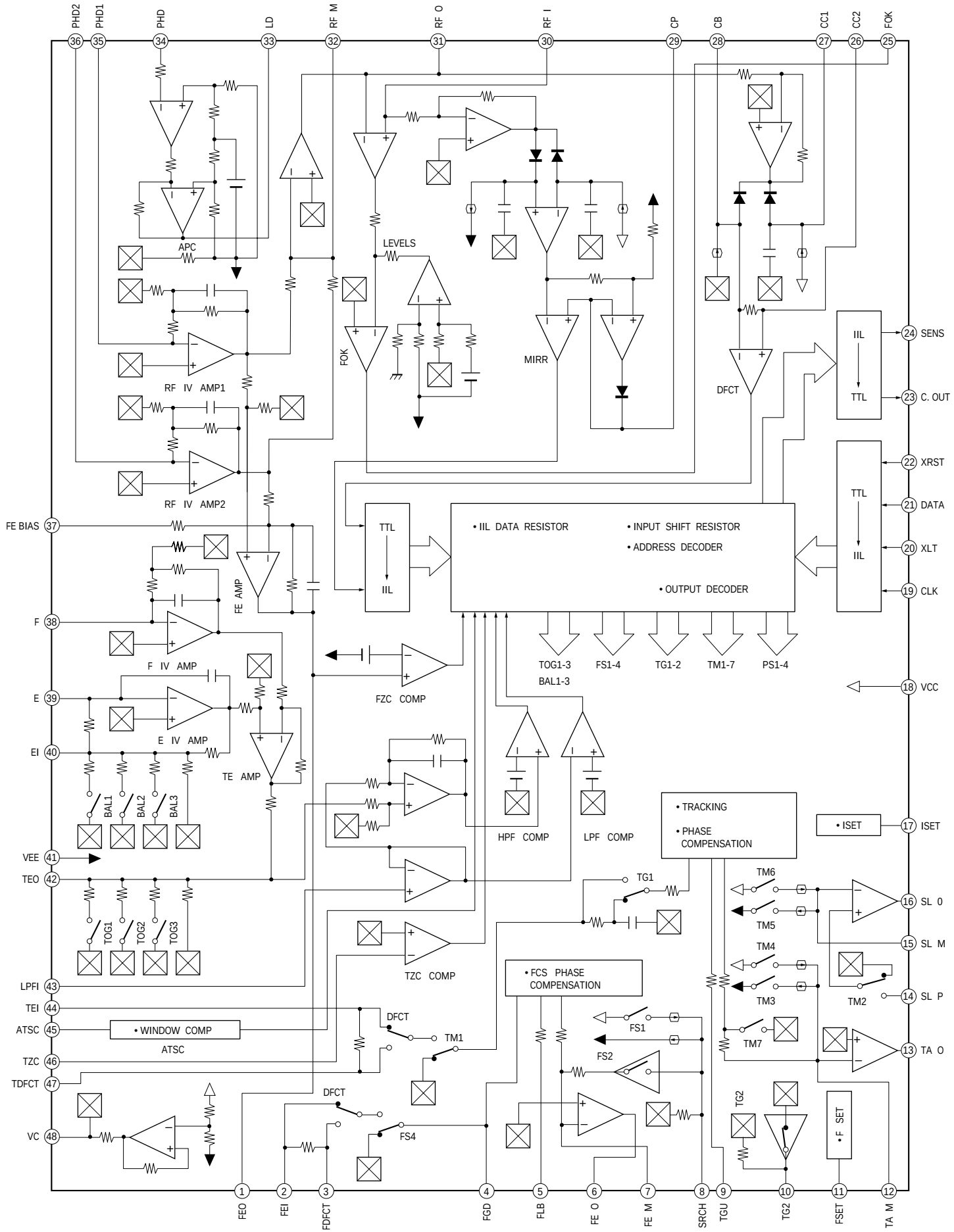
IC304 TDA7319



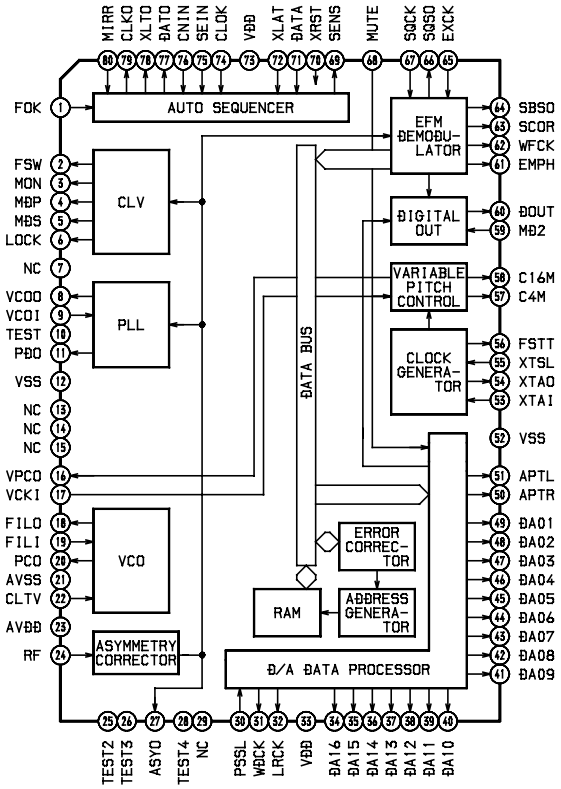
IC308 CD4052BCN



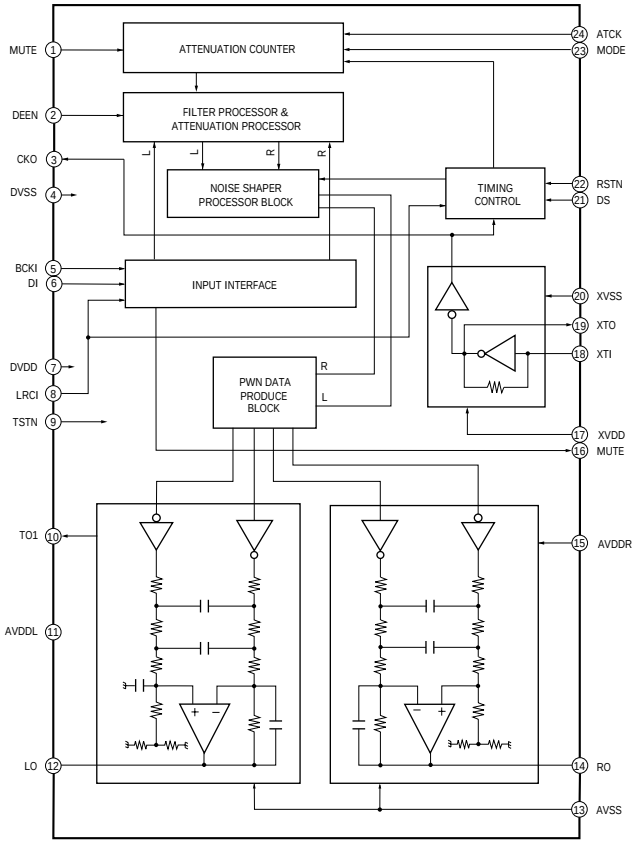
IC701 CXA1782BQ



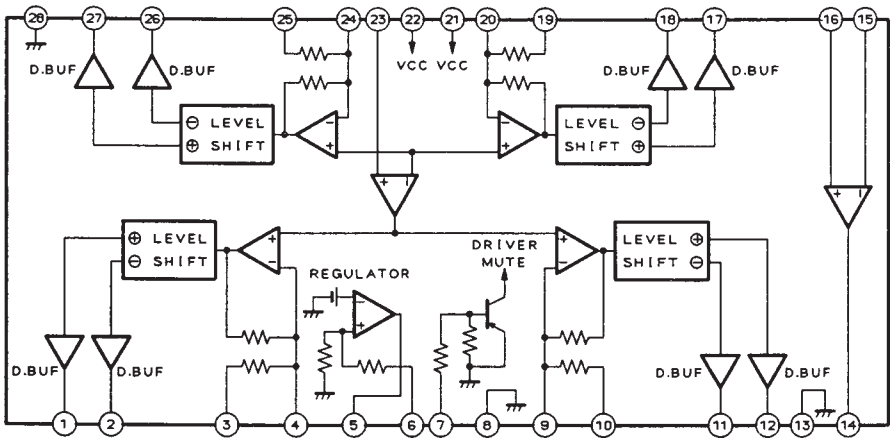
IC702 CXD2500BQ



U1009 SM5877AM



IC703 BA5930FP



5-11. IC PIN FUNCTION DESCRIPTION

CONTROL BOARD IC801 MSM65354-408GS-BK4 (SYSTEM CONTROL, LCD DRIVE)

Pin No.	Pin Name	I/O	Description
1 to 4	COM1 to COM4	O	LCD common output
5 to 36	SEG0 to SEG31	O	LCD Segment output
37	A-GND	—	Analog ground
38 to 41	KEY1 to KEY4	I	Key input
42	9/10	I	9k/10k select input
43	VOL-INI	I	Volume initial setting input (Fixed at “L”)
44	VCHK	I	Input for power check
45	NC (GND)	—	Connected to ground
46	VRH	—	AD reference voltage input
47	AVDD	—	Analog power supply (+5V)
48	RCE	O	PLL chip enable output
49	RDO	O	PLL data output
50	RDI	I	PLL data input
51	RCK	O	PLL serial clock
52	MCS	O	EEPROM chip select
53	MDI	I	EEPROM read/wired or to MD
54	MDO	O	EEPROM write/wired or to MD
55	MSK	O	EEPROM R/W clock output
56	TA	O	Analog SW control
57	TU	O	Analog SW, power supply control
58	CD	O	Power supply control
59	PCNT	O	Power on/off control output
60	XRST	O	CD/VCD system reset
61	CLT	O	CD DSP command latch
62	CDO	O	CD DSP command data
63	CCK		CD DSP command clock
64	NC (OPEN)	—	Not used (OPEN)
65	SQSO	I	Subcode serial data input
66	SQCK	O	Subcode read clock output
67	RMC	I	Remote control signal input
68	DBB	O	DBB on/off control output
69	ACKW	I	VDO acknowledgement reading
70	VDO	O	I^2 CBUS serial data output
71	VCK	O	I^2 CBUS serial clock output
72	VDD	—	Digital power supply (+5V)
73	NC (GND)	—	Not used
74	STID	I	FM stereo indicator control input
75	SENS	I	CD SENS signal input
76	DOP	I	INT-1 input/both edge detect
77	REC	I	MD Recording switch input
78	PLAY	I	MD head position switch input
79	H STOP	I	Hard stop mode input
80	SCOR	I	CD subcode read enable input

Pin No.	Pin Name	I/O	Description
81	$\overline{\text{OSC1}}$	O	Main clock output (4.19MHz)
82	OSC0	I	Main clock input (4.19MHz)
83	D-GND	—	Digital ground
84	XTI	I	32.678kHz OSC input
85	XTO	O	32.678kHz OSC output
86	NC (GND)	—	Not used (OPEN)
87	C MUT	O	CD/VCD sound muting
88	B MUT	O	Tuner block muting
89	A MUT	I/O	Audio output muting
90	CCE	O	CD/VCD CC-CBUS Line
91	BUO	O	CD/VCD CC-CBUS Line
92	BUI	I	CD/VCD CC-CBUS Line
93	BUCK	O	CD/VCD CC-CBUS Line
94	$\overline{\text{RST}}$	I	Reset input
95	NC (GND)	—	Connected to ground
96	NC (OPEN)	—	Not used (OPEN)
97	VDDL		Bias power supply for LCD drive
98 to 100	VDD1 to VDD3	—	Bias power supply for LCD drive

VCD BOARD U1006 RL5C293 (DIGITAL RGB TO NTSC/PAL ENCODER)

Pin No.	Pin Name	I/O	Description
1	VCOIN	I/O	Charge pump output/VCO input
2	GND	—	Digital ground
3	PALMODE	I	Video mode select control. When 0, NTSC mode, when 1, PAL mode.
4	MASTERB	I	Video sync mode select control. When 0, internal sync mode, when 1, external sync mode.
5	RESETB	I	Reset input
6 to 13	B7 to B0	I	B data input
14	TESTI0	I	Test input
15	PXCLK	I	Pixel clock input
16	VCC	—	Power supply for digital circuit
17	HSYNCB	I/O	Horizontal sync. signal input/output
18	VSYNCB	I/O	Vertical sync. signal input/output
19	GND	—	Digital ground
20	FORM	I	Input format select
21	TRAPFEN	I	Built-in trap filter control
22 to 29	G7 to G0	I	G data or Y data input
30	VCC	—	Power supply for digital circuit
31 to 38	R7 to R0	I	R data or CbCr data input
39	GND	—	Digital ground
40	CLKOUT	O	Clock out
41	FLDOUT	O	Field discri. signal out. Odd: “H”, Even: L out.
42	OSDCLK	O	Clock for OSD IC output
43	DICNT	I	Video data input control
44	SLEEP	I	Sleep mode select “H”: Active
45	AVCC	—	Power supply for analog circuit
46	NC	—	Open
47	NC	—	Open
48	VIDEO	O	Analog video signal out
49	IREF	—	Connected to resistor for full scale output current value setting
50	NC	—	Open
51	COMP	—	Connected to de-coupling capacitor for phase correction
52	AGND	—	Analog ground
53	AGND	—	Analog ground
54	PAL4FSC	I	CDG/PAL4fsc mode select signal
55 to 57	OSD2 to OSD0	I	OSD color select
58	VSW	I	OSD, background picture control
59	GND	—	Digital ground
60	CDGMODE	I	CDG mode select control
61	PAL60	I	PAL60 mode select control
62	CLKMODE	I	Two times pixel rate frequency input

VCD BOARD U1008 VIS2088 (VCD SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Description
1	P1.0	I/O	P1.0 of 8051
2	VCC		Digital VCC
3 to 9	P1.1 to P1.7	I/O	P1.1 to P1.7 of 8051
10	GND		Digital ground
11	X1	I	X'tal input
12	X2	O	X'tal output
13	RxD	I/O	RxD of 8051
14	TxD	I/O	TxD of 8051
15	INT0	I/O	INT0 of 8051
16	INT1	I/O	INT1 of 8051
17	T0	I/O	T0 of 8051
18	T1	I/O	T1 of 8051
19	WR	I/O	WR of 8051
20	RD	I/O	RD of 8051
21	PSEN	I/O	PSEN of 8051
22 to 29	BD0 to BD7	I/O	Data bus bit 0 to 7 of 8051
30	VCC		Digital VCC
31	GND		Digital ground
32	CPUTST	I	Test pin, Normally pull low
33 to 42	A0 to A9	O	Address bus bit 0 to 9 of 8051
43	A10/SRAM	O	Address bus bit 10 of 8051, SRAM chip enable
44 to 48	A11 to A15	O	Address bus bit 11 to 15 of 8051
49	ALE	O	Address latch enable
50	KEYWR	O	Test data latch signal
51	GND		Digital ground
52 to 59	HD7 to HD0	I/O	CL480 host data interface
60	DS	O	CL480 host data strobe signal
61	R/W	O	CL480 host data read/write signal
62 to 64	HSEL2 to HSEL0	O	CL480 host address interface
65	ENH	O	Extention I/O Port enable signal
66	CLK-HIGH	I	PLL clock output mode 1: 16.9344MHz 0: 11.2896MHz
67	RESET	O	Reset signal output. Its output is controlled by/PWRCTLI signal.
68	AGND		Analog ground
69	CPO	O	PLL charge pump output
70	VCI	I	PLL VCO input
71	AVDD		Analog VDD
72	PLL/PD	I	PLL test pin, It should be connected to SYSRST pin for normal operation.
73	DA-XCLK	O	PLL clock output, Its output is controlled by/PWRCTLI signal.
74	CD-BCK	I	PLL clock input
75	SYSRST	O	Power-on reset signal output. It's output is controlled by/PWRCTLI
76	480RST	I	Power-On reset signal input
77	AUD-SW	I	Audio switch signal
78	NTSC	I	NTSC/PAL indicator input, internal pull-down
79	TEST	I	Board test mode selection input, internal pull-up
80	VCC		Digital VCC
81	GND		Digital ground
82	MUTE	O	Mute signal output
83 to 90	COL7 to COL0	I	Key scan matrix column 7 to 0
91 to 95	ROW7 to ROW3	O	Key scan matrix row 7 to 3

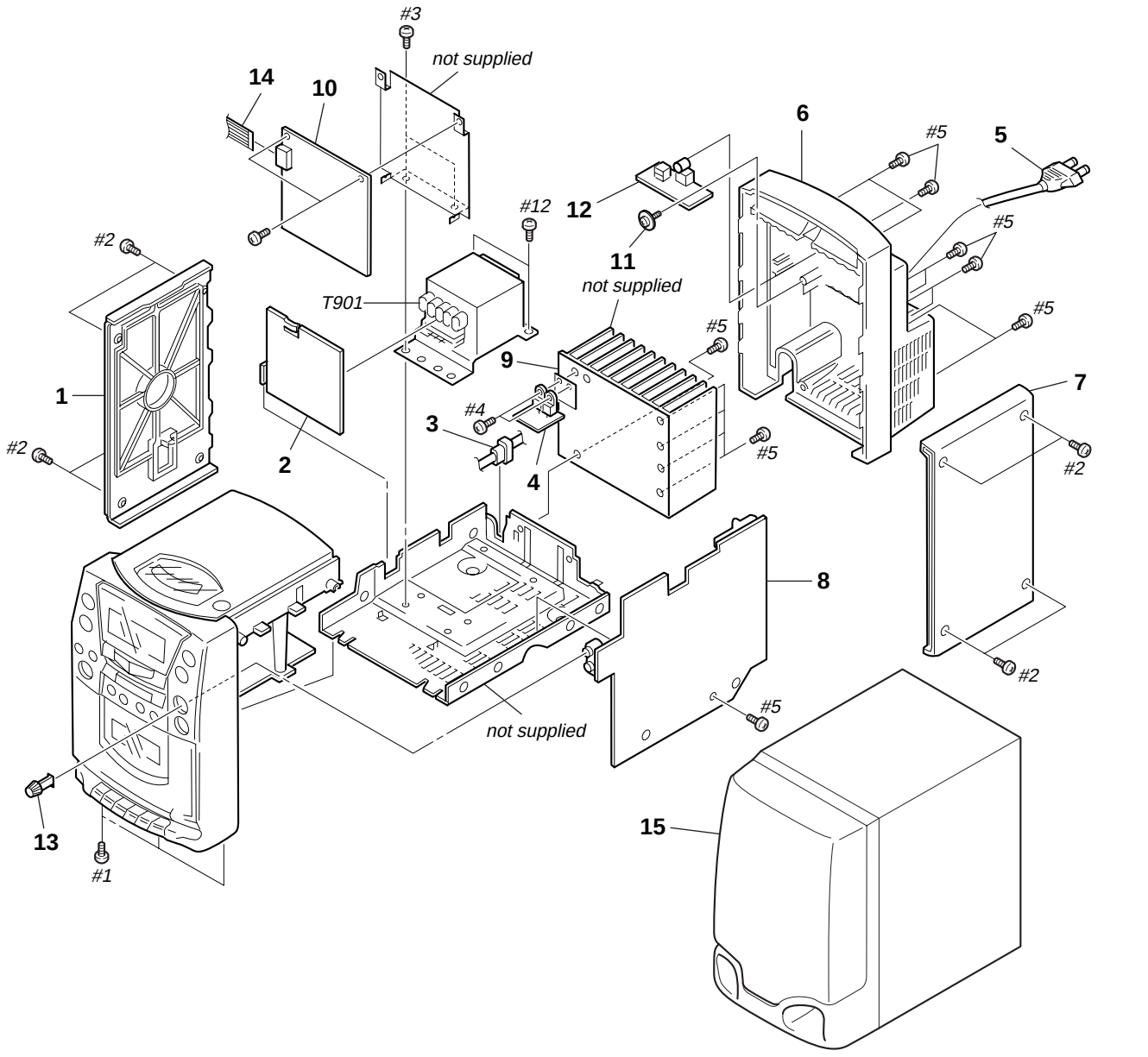
Pin No.	Pin Name	I/O	Description
96	CD/RST	O	Servo reset signal
97	PD	O	Negative power down signal
98	PD	O	Power down signal
99	PWRCTLI	I	Power control input
100	RST51	I	Reset signal of 8051

SECTION 6
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

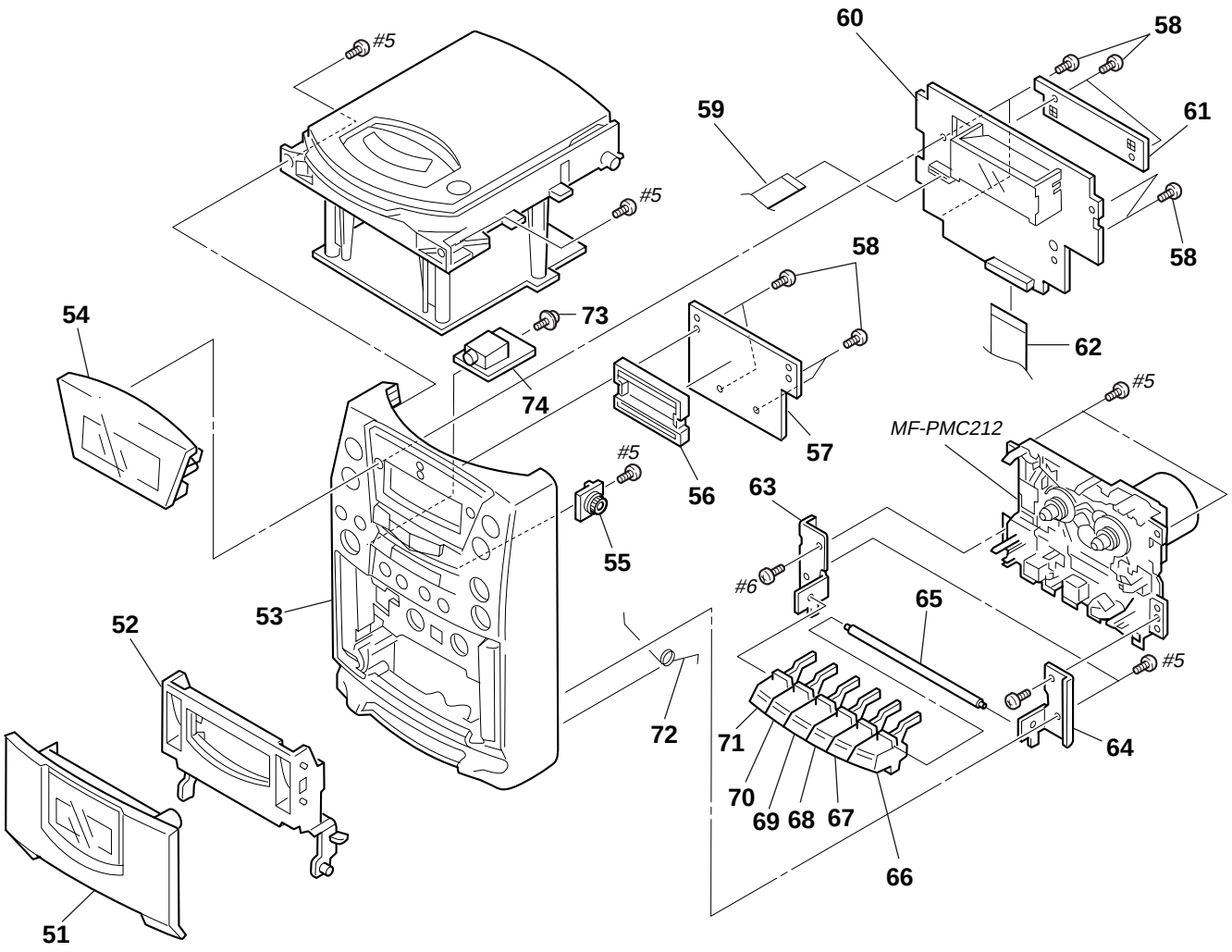
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

6-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remarks
1	3-928-398-11	PANEL(L), SIDE	
2	1-669-360-11	POWER BOARD	
3	3-703-244-00	BUSHING (2104), CORD	
* 4	1-669-359-11	REGULATOR BOARD	
⚠5	1-575-651-21	CORD, POWER	
6	3-938-872-01	CABINET (REAR)	
7	3-928-399-01	PANEL(R), SIDE	
* 8	A-3293-913-A	MAIN BOARD, COMPLETE	
* 9	3-939-536-01	SHEET, INSULATING	
* 10	A-3293-915-A	VCD BOARD, COMPLETE	
11	4-960-167-01	SCREW (3 × 8) (DIA. 10), +WH	
* 12	1-669-365-11	V-JACK BOARD	
13	3-933-196-01	KNOB (EQ)	
14	1-783-370-11	WIRE(FLAT TYPE) (15 CORE)	
15	A-3320-284-A	SPEAKER ASSY	
⚠T901	1-431-785-11	TRANSFORMER, POWER	

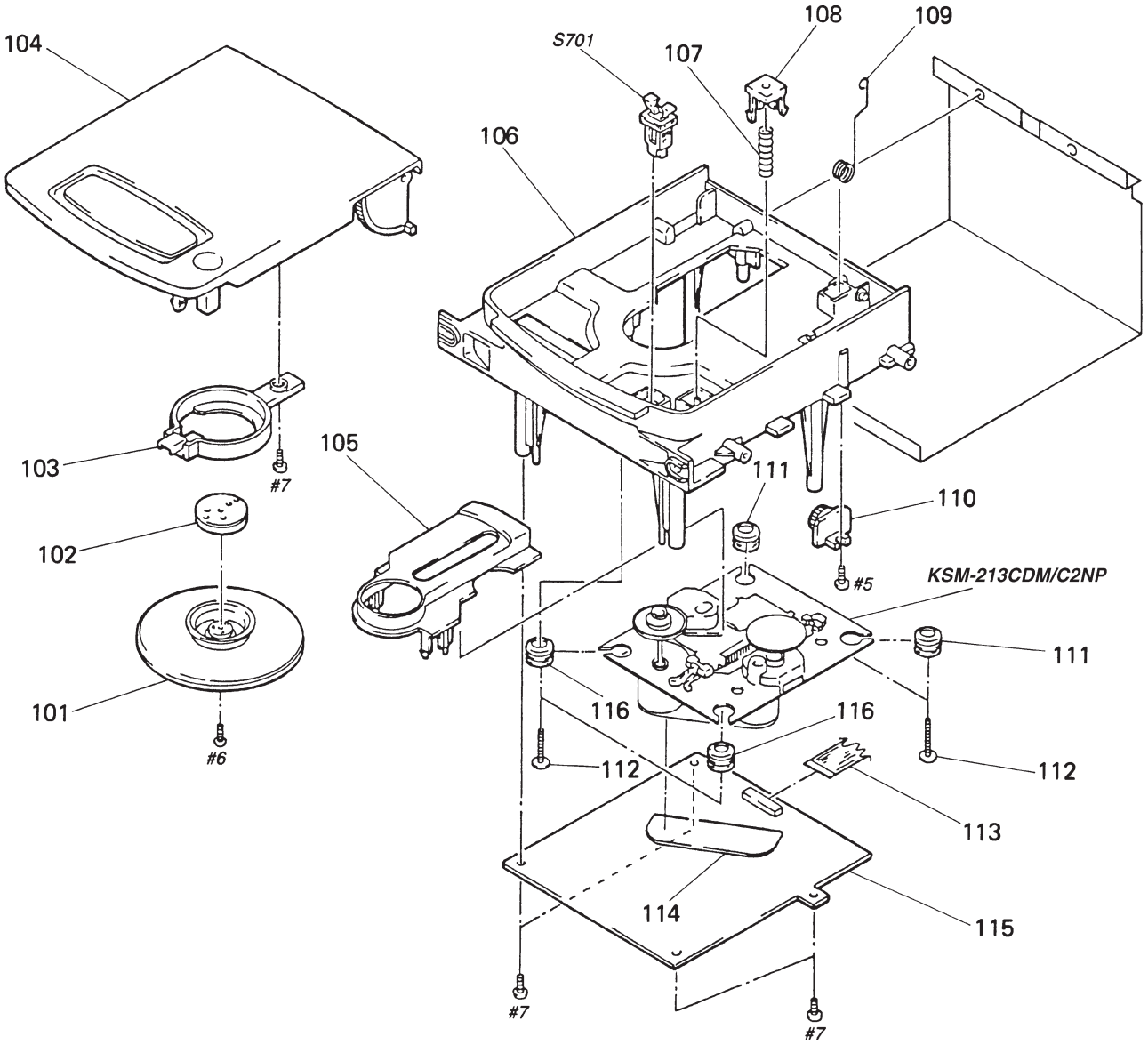
6-2. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remarks
51	X-3375-248-1	LIDASSY, CASSETTE	
52	3-928-355-01	HOLDER, CASSETTE	
53	X-3375-247-1	CABINET (FRONT) SUB ASSY	
54	3-928-367-01	WINDOW, LCD	
55	3-351-377-01	DAMPER	
56	3-928-369-01	CASE(LDE)	
* 57	1-669-364-11	KEY BOARD	
58	4-951-620-01	SCREW (2.6 × 8), +BVTP	
59	1-783-369-11	WIRE(FLAT TYPE) (17 CORE)	
* 60	A-3321-284-A	CONTROL BOARD, COMPLETE	
* 61	1-669-362-11	LAMP BOARD	
62	1-783-371-11	WIRE, PARALLEL	

Ref. No.	Part No.	Description	Remarks
63	3-928-358-01	BRACKET (L), SHAFT	
64	3-928-359-01	BRACKET (R), SHAFT	
65	3-928-360-01	SHAFT, MD	
66	3-928-366-01	PAUSE, BUTTON	
67	3-928-365-01	STOP, BUTTON	
68	3-928-364-01	BUTTON (FF)	
69	3-928-363-01	BUTTON (REW)	
70	3-928-362-01	PLAY, BUTTON	
71	3-928-361-01	REC,BUTTON	
72	3-928-357-01	SPRING, CASSETTE	
73	4-960-167-01	SCREW (3 × 8) (DIA. 10), +WH	
* 74	1-669-358-11	HEADPHONE BOARD	

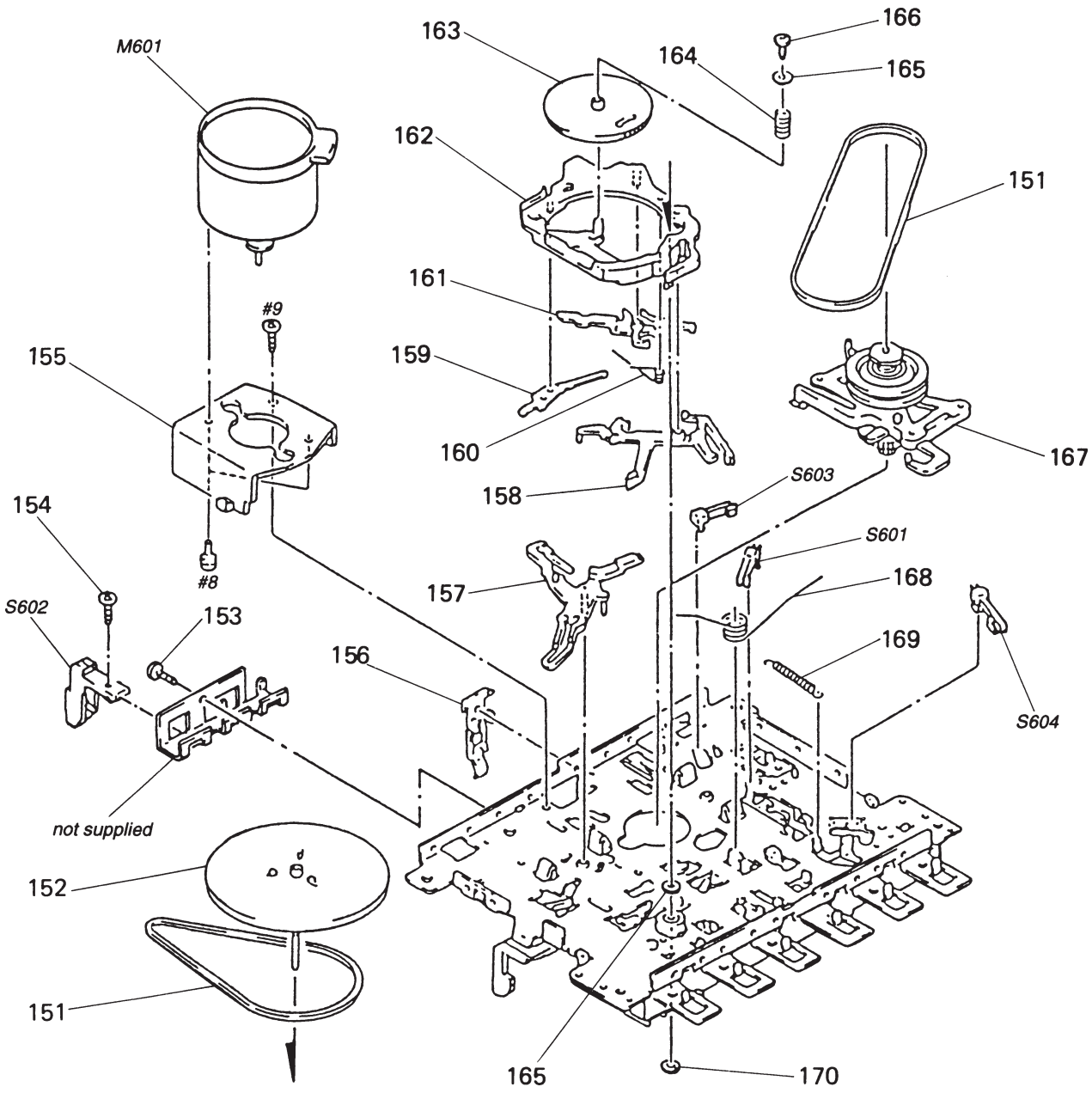
6-3. CD BLOCK SECTION



Ref. No.	Part No.	Description	Remarks
101	3-021-020-01	PLATE (DIA. 70), CHUCKING	
102	1-452-732-11	MAGNET	
103	3-923-733-01	HOLDER (CHUCK)	
104	X-3375-249-1	LID SUB ASSY, CD	
105	3-923-736-01	COVER, CD	
106	3-928-388-01	CHASSIS, CD	
107	3-932-787-01	SPRING, CD LIFT	
108	3-928-389-01	SLIDER, CD	
109	3-928-387-01	SPRING, CD LID	

Ref. No.	Part No.	Description	Remarks
110	3-351-377-01	DAMPER	
111	3-910-095-11	RUBBER, VIBRATION PROOF	
112	3-916-006-01	SCREW (2.6 × 16)	
113	1-769-824-11	WIRE (FLAT TYPE) (16 CORE)	
* 114	1-639-678-12	CD MOTOR BOARD	
* 115	A-3321-287-A	CD BOARD, COMPLETE	
116	3-910-095-01	RUBBER, VIBRATION PROOF	
S701	1-692-960-11	SWITCH, PUSH (1 KEY)	

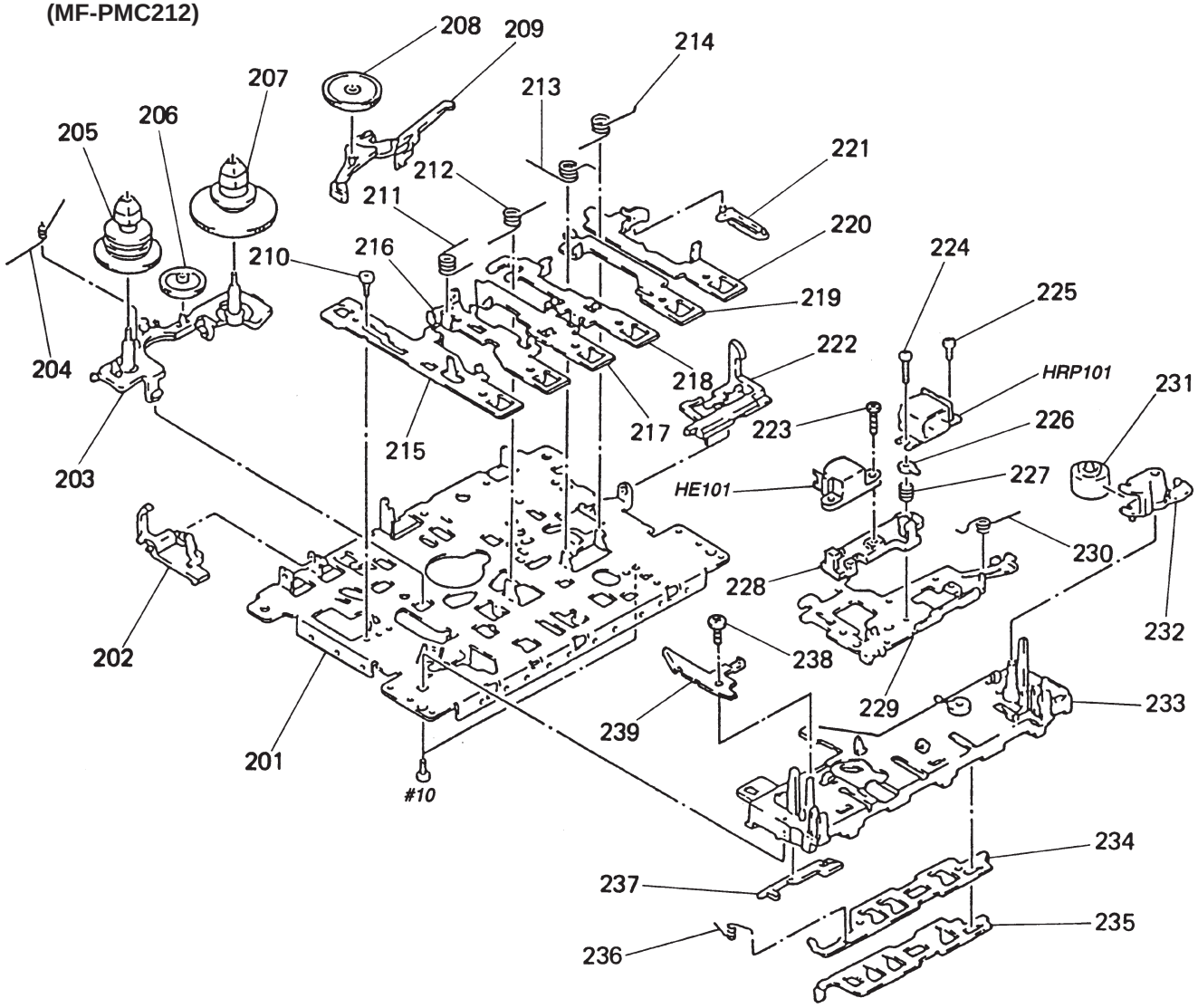
6-4. MECHANISM DECK SECTION-1
(MF-PMC212)



Ref. No.	Part No.	Description	Remarks
151	3-907-721-01	BELT	
152	3-910-473-01	FW ASSY	
153	3-929-030-01	SCREW	
154	3-929-033-01	SCREW	
* 155	3-362-988-01	HOLDER, MOTOR	
156	3-929-025-01	SPRING, CASSETTE	
157	3-387-697-01	SENSOR	
158	3-362-975-01	LEVER, SENSOR	
159	3-362-978-01	SPRING, PLATE	
160	3-362-977-01	SPRING	
161	3-362-976-01	LEVER, CONTROL	
162	3-362-973-01	AS (BASE)	
163	X-3363-315-1	GEAR, CAM	

Ref. No.	Part No.	Description	Remarks
164	3-369-962-01	SPRING, COMPRESSION	
165	3-369-961-01	WASHER	
166	3-366-352-01	SCREW	
167	3-362-969-01	IDLER ASSY, PF	
168	3-362-970-01	SPRING	
169	3-362-971-01	SPRING	
170	3-362-980-01	WASHER	
M601	X-3372-674-1	MOTOR ASSY (WITH PULLEY) (CAPSTAN/REEL)	
S601	1-571-556-11	SWITCH, LEAF (PLAY)	
S602	1-692-302-11	SWITCH, LEAF (CrO2)	
S603	1-571-556-11	SWITCH, LEAF (REC)	
S604	1-571-556-11	SWITCH, LEAF (MOTOR)	

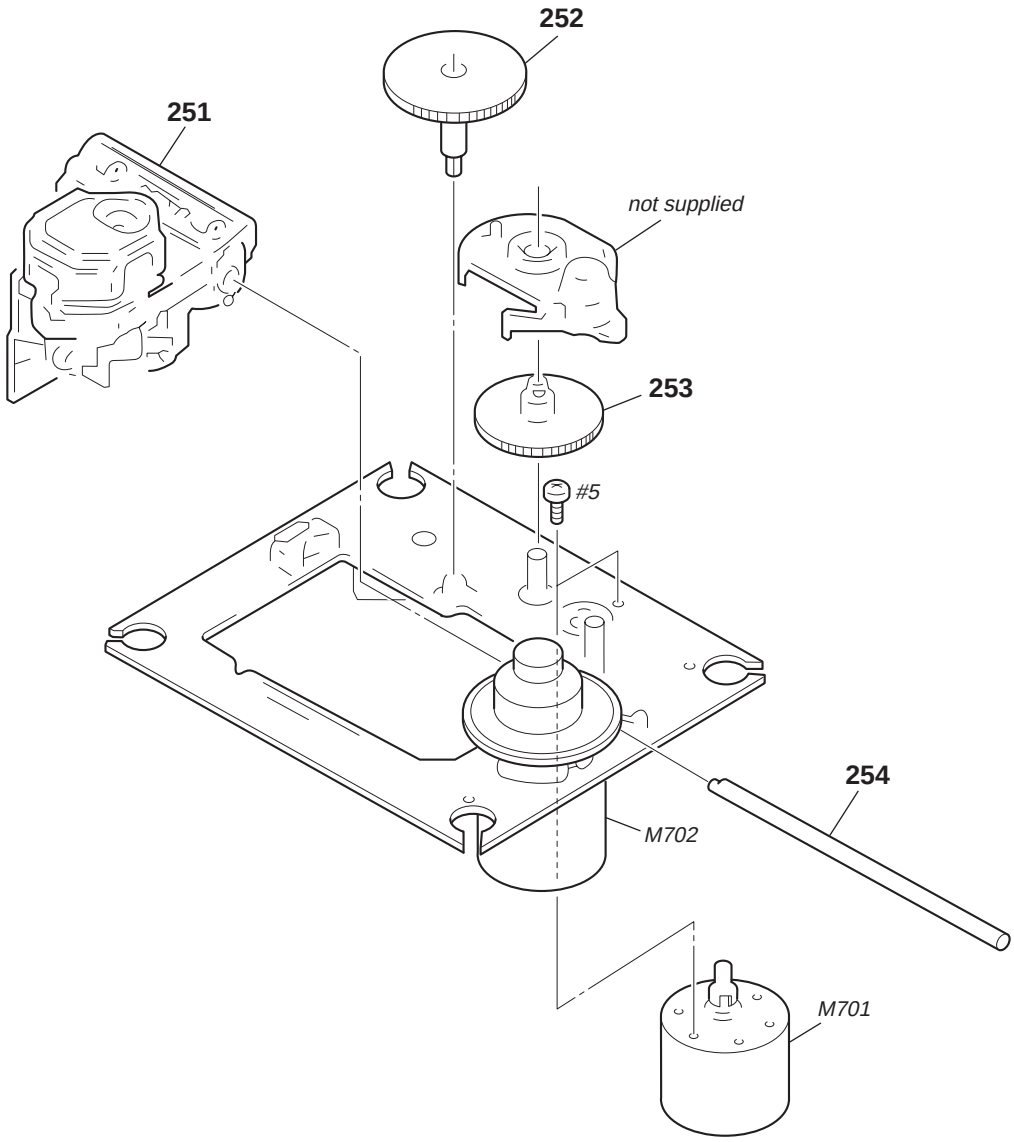
6-5. MECHANISM DECK SECTION-2
(MF-PMC212)



Ref. No.	Part No.	Description	Remarks
* 201	3-362-941-01	CHASSIS	
202	3-362-966-01	INTER LOCK	
203	3-362-961-01	SPINDLE (BASE)	
204	3-929-024-01	SPRING	
205	X-3363-611-1	REEL, S	
206	3-362-965-01	IDLER, FF	
207	3-362-962-01	REEL ASSY, T	
208	3-362-960-01	PULLEY, IDLER	
209	3-362-959-01	ARM, IDLER	
210	3-362-958-01	SCREW	
211	3-362-954-01	SPRING	
212	3-362-955-01	SPRING	
213	3-362-956-01	SPRING	
214	3-362-957-01	SPRING	
* 215	3-362-947-01	LEVER, REC	
* 216	3-362-948-01	LEVER, PLAY	
* 217	3-362-949-01	LEVER, REW	
* 218	3-362-950-01	LEVER, FF	
* 219	3-362-951-01	LEVER, SE	
* 220	3-362-952-01	LEVER, PAUSE	

Ref. No.	Part No.	Description	Remarks
221	3-362-953-01	ARM, PAUSE	
222	3-362-968-01	LEVER, EJECT	
223	3-929-031-01	SCREW	
224	3-929-029-01	SCREW	
225	3-929-030-01	SCREW	
226	3-390-817-01	LUG	
227	3-929-027-01	SPRING	
* 228	3-929-028-01	HEAD, HOLDER	
* 229	3-929-026-01	HEAD, BASE	
230	3-362-983-01	SPRING	
231	3-362-982-01	PINCH ROLLER	
232	3-362-981-01	PINCH ARM	
233	3-362-942-01	FRAME ASSY	
* 234	3-362-943-01	PLATE, FUNCTION	
* 235	3-362-946-01	LEVER, SW	
236	3-362-945-01	SPRING	
237	3-362-944-01	STOPPER, REC	
238	3-929-032-01	SCREW	
239	3-918-739-01	PLATE, SWITCH	
HE101	1-543-673-11	HEAD, MAGNETIC (ERASE)	
HRP101	1-543-424-21	HEAD (RECORD/PLAYBACK)	

6-6. OPTICAL PICK-UP SECTION (KSM-213CDM/C2NP)



Ref. No.	Part No.	Description	Remarks
⚠251	8-848-483-05	OPTICAL PICK-UP KSS-213C/Q-RP	
252	2-626-907-01	GEAR (A) (S)	
253	2-627-003-01	GEAR (B) (RP)	
254	2-626-908-01	SHAFT, SLED	
M701	X-2625-769-1	GEAR ASSY (MB) (RP), MOTOR (SLED)	
M702	X-2626-202-1	CHASSIS ASSY (MB) (RP), MOTOR (SPINDLE)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

CD

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

Ref. No.	Part No.	Description			Remarks
*	A-3321-287-A	CD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C700	1-164-159-21	CERAMIC	0.1uF	50V	
C701	1-162-306-11	CERAMIC	0.01uF	30%	16V
C702	1-124-907-11	ELECT	10uF	20%	50V
C703	1-162-294-31	CERAMIC	0.001uF	10%	50V
C704	1-104-664-11	ELECT	47uF	20%	10V
C705	1-162-199-31	CERAMIC	10PF	5%	50V
C706	1-130-483-00	FILM	0.01uF	5%	50V
C707	1-130-489-00	MYLAR	0.033uF	5%	50V
C708	1-162-306-11	CERAMIC	0.01uF	30%	16V
C709	1-130-489-00	MYLAR	0.033uF	5%	50V
C710	1-130-483-00	MYLAR	0.01uF	5%	50V
C711	1-161-494-00	CERAMIC	0.022uF	25V	
C712	1-130-491-00	MYLAR	0.047uF	5%	50V
C713	1-130-481-00	MYLAR	0.0068uF	5%	50V
C714	1-130-495-00	MYLAR	0.1uF	5%	50V
C715	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C716	1-130-495-00	MYLAR	0.1uF	5%	50V
C717	1-130-495-00	MYLAR	0.1uF	5%	50V
C718	1-130-495-00	MYLAR	0.1uF	5%	50V
C719	1-126-963-11	ELECT	4.7uF	20%	50V
C720	1-130-489-00	MYLAR	0.033uF	5%	50V
C721	1-130-486-00	MYLAR	0.018uF	10%	50V
C722	1-162-282-31	CERAMIC	100PF	10%	50V
C723	1-126-962-11	ELECT	3.3uF	20%	50V
C724	1-130-493-00	MYLAR	0.068uF	5%	50V
C725	1-104-666-11	ELECT	220uF	20%	10V
C726	1-162-294-31	CERAMIC	0.001uF	10%	50V
C727	1-162-306-11	CERAMIC	0.01uF	30%	16V
C728	1-162-306-11	CERAMIC	0.01uF	30%	16V
C729	1-136-169-00	FILM	0.22uF	5%	50V
C730	1-162-286-21	CERAMIC	220PF	10%	50V
C731	1-162-290-31	CERAMIC	470PF	10%	50V
C732	1-162-306-11	CERAMIC	0.01uF	30%	16V
C733	1-136-173-00	FILM	0.47uF	5%	50V
C734	1-104-664-11	ELECT	47uF	20%	10V
C735	1-164-159-21	CERAMIC	0.1uF	50V	
C736	1-162-291-31	CERAMIC	560PF	10%	50V
C737	1-162-294-31	CERAMIC	0.001uF	10%	50V
C738	1-162-294-31	CERAMIC	0.001uF	10%	50V
C739	1-162-294-31	CERAMIC	0.001uF	10%	50V
C740	1-162-291-31	CERAMIC	560PF	10%	50V
C741	1-162-306-11	CERAMIC	0.01uF	30%	16V
C742	1-136-967-11	MYLAR	0.012uF	5%	50V
C743	1-162-294-31	CERAMIC	0.001uF	10%	50V
C744	1-162-306-11	CERAMIC	0.01uF	30%	16V
C745	1-124-472-11	ELECT	470uF	20%	10V
C746	1-162-199-31	CERAMIC	10PF	5%	50V
C747	1-162-199-31	CERAMIC	10PF	5%	50V
C748	1-104-664-11	ELECT	47uF	20%	10V
C749	1-104-664-11	ELECT	47uF	20%	10V
C750	1-102-936-00	CERAMIC	3.0PF	±0.25PF	50V
C751	1-137-198-11	FILM	1uF	5%	50V
C753	1-162-306-11	CERAMIC	0.01uF	30%	16V
		< CONNECTOR >			
CNP701	1-695-377-31	PIN, CONNECTOR (PC BOARD) 16P			
CNP702	1-695-338-11	PIN, CONNECTOR (PC BOARD) 15P			
* CNP703	1-580-167-11	PIN, CONNECTOR (PC BOARD) 6P			
* CNP704	1-580-165-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP705	1-695-378-31	PIN, CONNECTOR (PC BOARD) 17P			
		< IC >			
IC701	8-752-074-34	IC CXA1782BQ			
IC702	8-752-351-78	IC CXD2500BQ			
IC703	8-759-336-75	IC BA5930FP			
		< COIL >			
L701	1-410-509-11	INDUCTOR	10uH		
L702	1-410-501-11	INDUCTOR	2.2uH		
L703	1-410-501-11	INDUCTOR	2.2uH		
		< TRANSISTOR >			
Q701	8-729-141-03	TRANSISTOR	2SA733-QP		
Q702	8-729-029-94	TRANSISTOR	DTC143TSA		
		< RESISTOR >			
R701	1-249-393-11	CARBON	10	5%	1/4W F
R702	1-249-429-11	CARBON	10K	5%	1/4W
R703	1-249-429-11	CARBON	10K	5%	1/4W
R704	1-247-843-11	CARBON	3.3K	5%	1/4W
R705	1-247-862-11	CARBON	20K	5%	1/4W
R706	1-249-430-11	CARBON	12K	5%	1/4W
R707	1-249-437-11	CARBON	47K	5%	1/4W
R708	1-249-439-11	CARBON	68K	5%	1/4W
R709	1-249-439-11	CARBON	68K	5%	1/4W
R710	1-249-439-11	CARBON	68K	5%	1/4W
R711	1-249-439-11	CARBON	68K	5%	1/4W
R712	1-249-437-11	CARBON	47K	5%	1/4W
R713	1-249-437-11	CARBON	47K	5%	1/4W
R714	1-247-891-00	CARBON	330K	5%	1/4W
R716	1-247-883-00	CARBON	150K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R717	1-249-429-11	CARBON	10K	5%	1/4W
R718	1-247-899-11	CARBON	680K	5%	1/4W
R719	1-249-441-11	CARBON	100K	5%	1/4W
R720	1-247-896-11	CARBON	510K	5%	1/4W
R721	1-249-441-11	CARBON	100K	5%	1/4W
R722	1-249-427-11	CARBON	6.8K	5%	1/4W F
R723	1-249-437-11	CARBON	47K	5%	1/4W
R724	1-249-432-11	CARBON	18K	5%	1/4W
R725	1-247-876-11	CARBON	75K	5%	1/4W
R726	1-247-883-00	CARBON	150K	5%	1/4W
R727	1-247-883-00	CARBON	150K	5%	1/4W
R728	1-247-887-00	CARBON	220K	5%	1/4W
R729	1-249-429-11	CARBON	10K	5%	1/4W
R730	1-247-903-00	CARBON	1M	5%	1/4W
R731	1-249-429-11	CARBON	10K	5%	1/4W
R732	1-247-843-11	CARBON	3.3K	5%	1/4W
R733	1-249-417-11	CARBON	1K	5%	1/4W F
R734	1-249-437-11	CARBON	47K	5%	1/4W
R735	1-249-429-11	CARBON	10K	5%	1/4W
R736	1-249-429-11	CARBON	10K	5%	1/4W
R737	1-249-417-11	CARBON	1K	5%	1/4W F
R738	1-249-417-11	CARBON	1K	5%	1/4W F
R739	1-249-417-11	CARBON	1K	5%	1/4W F
R740	1-249-429-11	CARBON	10K	5%	1/4W
R741	1-249-435-11	CARBON	33K	5%	1/4W
R742	1-249-435-11	CARBON	33K	5%	1/4W
R743	1-247-863-91	CARBON	22K	5%	1/4W
R744	1-249-437-11	CARBON	47K	5%	1/4W
R745	1-249-425-11	CARBON	4.7K	5%	1/4W F
R746	1-249-408-11	CARBON	180	5%	1/4W F
R747	1-249-408-11	CARBON	180	5%	1/4W F
R748	1-249-408-11	CARBON	180	5%	1/4W F
R749	1-249-408-11	CARBON	180	5%	1/4W F
R750	1-249-417-11	CARBON	1K	5%	1/4W F
R753	1-247-807-11	CARBON	100	5%	1/4W
		< VARIABLE RESISTOR >			
RV701	1-230-497-11	RES, ADJ, CARBON 22K			
RV702	1-223-459-21	RES, ADJ, CERMET 2.2K			
RV703	1-230-497-11	RES, ADJ, CARBON 22K			
RV704	1-230-497-11	RES, ADJ, CARBON 22K			
		< VIBRATOR >			
X701	1-579-345-11	VIBRATOR, CERAMIC 16.9344MHz			
**********					
*	1-639-678-12	CD MOTOR BOARD			
		**********			
		< CONNECTOR >			
CNP707	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P			
		< SWITCH >			
S702	1-572-085-11	SWITCH, LEAF (LIMIT)			
**********					

Ref. No.	Part No.	Description			Remarks
*	A-3321-284-A	CONTROL BOARD, COMPLETE			
		**********			
	3-928-783-01	HOLDER (LCD)			
	3-928-784-01	HOLDER, LED			
		< CAPACITOR >			
C801	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C802	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C803	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C804	1-104-664-11	ELECT	47uF	20%	10V
C805	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C806	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C807	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C808	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C809	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C810	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C811	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C812	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C813	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C814	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C815	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C816	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C817	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C818	1-104-664-11	ELECT	47uF	20%	10V
C819	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C820	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C821	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C822	1-104-664-11	ELECT	47uF	20%	10V
C823	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C824	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
		< CONNECTOR >			
CNP801	1-695-384-31	PIN, CONNECTOR (PC BOARD) 23P			
CNP802	1-695-340-21	PIN, CONNECTOR (PC BOARD) 17P			
* CNP803	1-580-167-11	PIN, CONNECTOR (PC BOARD) 6P			
		< DIODE >			
D801	8-719-991-33	DIODE	1SS133T-77		
D802	8-719-991-33	DIODE	1SS133T-77		
D803	8-719-991-33	DIODE	1SS133T-77		
D804	8-719-991-33	DIODE	1SS133T-77		
D805	8-719-055-35	DIODE	KLR2303/N		
		< IC >			
IC801	8-759-531-81	IC	MSM65354-408GS-BK4		
IC802	8-749-923-11	IC	GP1U58XB		
IC803	8-759-165-81	IC	PST600D-T		
IC804	8-759-252-56	IC	S-2900AUT		
		< JUMPER RESISTOR >			
JW804	1-216-295-91	SHORT	0		
JW840	1-216-295-91	SHORT	0		
		< COIL >			
L801	1-410-509-11	INDUCTOR	10uH		
L802	1-410-509-11	INDUCTOR	10uH		

CONTROL | HEADPHONE

Ref. No.	Part No.	Description			Remarks
		< LIQUID CRYSTAL DISPLAY >			
LCD801	1-803-086-11	LCD			
		< TRANSISTOR >			
Q801	8-729-027-38	TRANSISTOR	DTA144EKA-T146		
Q802	8-729-027-46	TRANSISTOR	DTC114YKA-T146		
Q803	8-729-027-46	TRANSISTOR	DTC114YKA-T146		
		< RESISTOR >			
R801	1-216-073-00	METAL CHIP	10K	5%	1/10W
R802	1-216-073-00	METAL CHIP	10K	5%	1/10W
R803	1-216-073-00	METAL CHIP	10K	5%	1/10W
R804	1-216-073-00	METAL CHIP	10K	5%	1/10W
R805	1-216-101-00	METAL CHIP	150K	5%	1/10W
R806	1-216-101-00	METAL CHIP	150K	5%	1/10W
R807	1-216-101-00	METAL CHIP	150K	5%	1/10W
R808	1-216-106-00	METAL CHIP	240K	5%	1/10W
R809	1-216-073-00	METAL CHIP	10K	5%	1/10W
R810	1-216-049-91	RES,CHIP	1K	5%	1/10W
R811	1-216-049-91	RES,CHIP	1K	5%	1/10W
R812	1-216-049-91	RES,CHIP	1K	5%	1/10W
R813	1-216-049-91	RES,CHIP	1K	5%	1/10W
R814	1-216-049-91	RES,CHIP	1K	5%	1/10W
R815	1-216-049-91	RES,CHIP	1K	5%	1/10W
R816	1-216-049-91	RES,CHIP	1K	5%	1/10W
R817	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R818	1-216-073-00	METAL CHIP	10K	5%	1/10W
R819	1-216-073-00	METAL CHIP	10K	5%	1/10W
R820	1-216-073-00	METAL CHIP	10K	5%	1/10W
R821	1-216-073-00	METAL CHIP	10K	5%	1/10W
R822	1-216-073-00	METAL CHIP	10K	5%	1/10W
R823	1-216-073-00	METAL CHIP	10K	5%	1/10W
R824	1-216-073-00	METAL CHIP	10K	5%	1/10W
R825	1-216-035-00	METAL CHIP	270	5%	1/10W
R826	1-216-073-00	METAL CHIP	10K	5%	1/10W
R827	1-216-049-91	RES,CHIP	1K	5%	1/10W
R828	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R829	1-216-049-91	RES,CHIP	1K	5%	1/10W
R830	1-216-049-91	RES,CHIP	1K	5%	1/10W
R831	1-216-049-91	RES,CHIP	1K	5%	1/10W
R832	1-216-049-91	RES,CHIP	1K	5%	1/10W
R833	1-216-049-91	RES,CHIP	1K	5%	1/10W
R834	1-216-049-91	RES,CHIP	1K	5%	1/10W
R835	1-216-025-91	RES,CHIP	100	5%	1/10W
R836	1-216-049-91	RES,CHIP	1K	5%	1/10W
R837	1-216-049-91	RES,CHIP	1K	5%	1/10W
R838	1-216-049-91	RES,CHIP	1K	5%	1/10W
R839	1-216-049-91	RES,CHIP	1K	5%	1/10W
R840	1-216-073-00	METAL CHIP	10K	5%	1/10W
R841	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R842	1-216-049-91	RES,CHIP	1K	5%	1/10W
R843	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R844	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R845	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R846	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R847	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R848	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R850	1-216-049-91	RES,CHIP	1K	5%	1/10W
R851	1-216-073-00	METAL CHIP	10K	5%	1/10W
R852	1-216-089-91	RES,CHIP	47K	5%	1/10W
R853	1-216-089-91	RES,CHIP	47K	5%	1/10W
R854	1-216-049-91	RES,CHIP	1K	5%	1/10W
R855	1-216-045-00	METAL CHIP	680	5%	1/10W
R856	1-216-047-91	RES,CHIP	820	5%	1/10W
R857	1-216-045-00	METAL CHIP	680	5%	1/10W
R858	1-216-073-00	METAL CHIP	10K	5%	1/10W
R859	1-216-043-91	RES,CHIP	560	5%	1/10W
R871	1-216-049-91	RES,CHIP	1K	5%	1/10W
R872	1-216-049-91	RES,CHIP	1K	5%	1/10W
R873	1-216-049-91	RES,CHIP	1K	5%	1/10W
R874	1-216-049-91	RES,CHIP	1K	5%	1/10W
R875	1-216-049-91	RES,CHIP	1K	5%	1/10W
R876	1-216-049-91	RES,CHIP	1K	5%	1/10W
R877	1-216-089-91	RES,CHIP	47K	5%	1/10W
		< SWITCH >			
S801	1-554-303-11	SWITCH, KEYBOARD (POWER)			
S802	1-554-303-11	SWITCH, KEYBOARD (TUNING: +, RETURN)			
S803	1-554-303-11	SWITCH, KEYBOARD (TUNING: –, ST/L/R)			
S804	1-554-303-11	SWITCH, KEYBOARD (VOLUME: +)			
S805	1-554-303-11	SWITCH, KEYBOARD (VOLUME: –)			
		< VIBRATOR >			
X801	1-760-305-11	VIBRATOR, CRYSTAL 32.768kHZ			
X802	1-577-101-11	VIBRATOR, CERAMIC 4.19MHz			
**********					
*	1-669-358-11	HEADPHONE BOARD			
		**********			
		< CAPACITOR >			
C142	1-163-025-11	CERAMIC CHIP	0.001uF	50V	
C242	1-163-025-11	CERAMIC CHIP	0.001uF	50V	
		< CONNECTOR >			
* CNP313	1-580-165-11	PIN, CONNECTOR (PC BOARD) 4P			
		< FERRITE BEAD >			
FB302	1-410-397-21	FERRITE BEAD INDUCTOR			
		< JACK >			
J303	1-568-267-11	JACK (🎧)			
		< COIL >			
L103	1-410-509-11	INDUCTOR	10uH		
L203	1-410-509-11	INDUCTOR	10uH		
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Ref. No.	Part No.	Description	Remarks
*	1-669-364-11	KEY BOARD	
		**********	
		< CONNECTOR >	
* CNP804	1-580-158-11	PIN, CONNECTOR (PC BOARD) 6P	
		< DIODE >	
D806	8-719-940-82	LED SLR34MC3	
D807	8-719-940-82	LED SLR34MC3	
D808	8-719-940-82	LED SLR34MC3	
D809	8-719-940-82	LED SLR34MC3	
D810	8-719-940-82	LED SLR34MC3	
D811	8-719-940-82	LED SLR34MC3	
		< RESISTOR >	
R860	1-249-415-11	CARBON 680 5% 1/4W F	
R861	1-249-416-11	CARBON 820 5% 1/4W F	
R862	1-249-418-11	CARBON 1.2K 5% 1/4W F	
R863	1-249-420-11	CARBON 1.8K 5% 1/4W F	
R864	1-249-415-11	CARBON 680 5% 1/4W F	
R865	1-249-416-11	CARBON 820 5% 1/4W F	
R866	1-249-418-11	CARBON 1.2K 5% 1/4W F	
R867	1-249-420-11	CARBON 1.8K 5% 1/4W F	
R868	1-247-843-11	CARBON 3.3K 5% 1/4W	
R869	1-249-399-11	CARBON 33 5% 1/4W F	
R870	1-249-399-11	CARBON 33 5% 1/4W F	
		< SWITCH >	
S806	1-554-303-11	SWITCH, KEYBOARD (BAND)	
S807	1-554-303-11	SWITCH, KEYBOARD (PRESET/MENU: +)	
S808	1-554-303-11	SWITCH, KEYBOARD (PRESET/MENU: –)	
S809	1-554-303-11	SWITCH, KEYBOARD (MEGA BASS)	
S810	1-554-303-11	SWITCH, KEYBOARD (SOUND)	
S811	1-554-303-11	SWITCH, KEYBOARD (▷II)	
S812	1-554-303-11	SWITCH, KEYBOARD (□)	
S813	1-554-303-11	SWITCH, KEYBOARD (▷▷I)	
S814	1-554-303-11	SWITCH, KEYBOARD (I◁◁)	
S815	1-554-303-11	SWITCH, KEYBOARD (DISPLAY, ENTER/MEM)	
S816	1-554-303-11	SWITCH, KEYBOARD (PLAYMODE, MONO/ST)	
**********			
*	1-669-362-11	LAMP BOARD	
		**********	
		< PILOT LAMP >	
PL801	1-517-474-11	LAMP, PILOT	
PL801	1-517-474-31	LAMP, PILOT	
PL801	1-517-474-11	LAMP, PILOT	
PL802	1-517-474-11	LAMP, PILOT	
PL802	1-517-474-31	LAMP, PILOT	
PL802	1-517-474-11	LAMP, PILOT	
PL803	1-517-474-11	LAMP, PILOT	
PL803	1-517-474-31	LAMP, PILOT	
PL803	1-517-474-11	LAMP, PILOT	
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Ref. No.	Part No.	Description			Remarks
*	A-3293-913-A	MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C2	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C3	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C4	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C5	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C6	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C7	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C8	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C9	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C10	1-124-443-00	ELECT	100uF	20%	10V
C11	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C12	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C13	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C16	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C17	1-126-963-11	ELECT	4.7uF	20%	50V
C18	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C19	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C20	1-124-907-11	ELECT	10uF	20%	50V
C21	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C22	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C23	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C24	1-164-345-11	CERAMIC CHIP	0.082uF	10%	25V
C25	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C26	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C27	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C28	1-124-903-11	ELECT	1uF	20%	50V
C29	1-124-903-11	ELECT	1uF	20%	50V
C30	1-126-233-11	ELECT	22uF	20%	50V
C31	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C32	1-126-963-11	ELECT	4.7uF	20%	50V
C33	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C34	1-136-177-00	FILM	1uF	5%	50V
C35	1-124-907-11	ELECT	10uF	20%	50V
C36	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C37	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C38	1-124-907-11	ELECT	10uF	20%	50V
C39	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C40	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C41	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C42	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C43	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C44	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C45	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C46	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C47	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C48	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C49	1-126-963-11	ELECT	4.7uF	20%	50V
C50	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C51	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C52	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C53	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C54	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C55	1-163-095-11	CERAMIC CHIP	12PF	5%	50V
C101	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C102	1-163-018-11	CERAMIC CHIP	0.0022uF	10%	50V

MAIN

Ref. No.	Part No.	Description			Remarks
C103	1-163-273-11	CERAMIC CHIP	820PF	5%	50V
C104	1-124-907-11	ELECT	10uF	20%	50V
C107	1-104-664-11	ELECT	47uF	20%	10V
C108	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C109	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C110	1-124-907-11	ELECT	10uF	20%	50V
C112	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C113	1-124-907-11	ELECT	10uF	20%	50V
C114	1-124-907-11	ELECT	10uF	20%	50V
C115	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C116	1-124-463-00	ELECT	0.1uF	20%	50V
C117	1-124-907-11	ELECT	10uF	20%	50V
C118	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C122	1-124-907-11	ELECT	10uF	20%	50V
C123	1-124-903-11	ELECT	1uF	20%	50V
C124	1-124-903-11	ELECT	1uF	20%	50V
C125	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C126	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C127	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C128	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C129	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C131	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C132	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C133	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C134	1-126-963-11	ELECT	4.7uF	20%	50V
C136	1-124-903-11	ELECT	1uF	20%	50V
C137	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C138	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C139	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C140	1-130-495-00	MYLAR	0.1uF	5%	50V
C141	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C143	1-124-903-11	ELECT	1uF	20%	50V
C144	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C201	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C202	1-163-018-11	CERAMIC CHIP	0.0022uF	10%	50V
C203	1-163-273-11	CERAMIC CHIP	820PF	5%	50V
C204	1-124-907-11	ELECT	10uF	20%	50V
C207	1-104-664-11	ELECT	47uF	20%	10V
C208	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C209	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V
C210	1-124-907-11	ELECT	10uF	20%	50V
C212	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C213	1-124-907-11	ELECT	10uF	20%	50V
C214	1-124-907-11	ELECT	10uF	20%	50V
C215	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C216	1-124-463-00	ELECT	0.1uF	20%	50V
C217	1-124-907-11	ELECT	10uF	20%	50V
C218	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C222	1-124-907-11	ELECT	10uF	20%	50V
C223	1-124-903-11	ELECT	1uF	20%	50V
C224	1-124-903-11	ELECT	1uF	20%	50V
C225	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C226	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C227	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C228	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C229	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C231	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C232	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C233	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C234	1-126-963-11	ELECT	4.7uF	20%	50V
C236	1-124-903-11	ELECT	1uF	20%	50V
C237	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C238	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C239	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C240	1-130-495-00	MYLAR	0.1uF	5%	50V
C241	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C243	1-124-903-11	ELECT	1uF	20%	50V
C244	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C301	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C302	1-126-965-11	ELECT	22uF	20%	50V
C303	1-104-664-11	ELECT	47uF	20%	16V
C305	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C306	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C307	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C308	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C309	1-126-963-11	ELECT	4.7uF	20%	50V
C310	1-104-665-11	ELECT	100uF	20%	16V
C311	1-124-907-11	ELECT	10uF	20%	50V
C312	1-124-907-11	ELECT	10uF	20%	50V
C313	1-104-663-11	ELECT	33uF	20%	16V
C314	1-104-663-11	ELECT	33uF	20%	16V
C315	1-124-907-11	ELECT	10uF	20%	50V
C316	1-124-907-11	ELECT	10uF	20%	50V
C317	1-137-150-11	MYLAR	0.01uF	5%	100V
C319	1-124-907-11	ELECT	10uF	20%	50V
C320	1-104-664-11	ELECT	47uF	20%	10V
C321	1-104-664-11	ELECT	47uF	20%	10V
C322	1-124-907-11	ELECT	10uF	20%	50V
C323	1-124-907-11	ELECT	10uF	20%	50V
C324	1-124-564-11	ELECT	4700uF	20%	25V
C325	1-130-495-00	MYLAR	0.1uF	5%	50V
C326	1-124-564-11	ELECT	4700uF	20%	25V
C327	1-130-495-00	MYLAR	0.1uF	5%	50V
C328	1-124-903-11	ELECT	1uF	20%	50V
C329	1-124-903-11	ELECT	1uF	20%	50V
C330	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C331	1-104-665-11	ELECT	100uF	20%	16V
C332	1-104-665-11	ELECT	100uF	20%	16V
C333	1-104-664-11	ELECT	47uF	20%	16V
C334	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C335	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C336	1-124-907-11	ELECT	10uF	20%	50V
C337	1-124-907-11	ELECT	10uF	20%	50V
C338	1-126-942-61	ELECT	1000uF	20%	16V
C339	1-104-665-11	ELECT	100uF	20%	16V
C340	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C341	1-164-159-21	CERAMIC	0.1uF	50V	
C342	1-124-472-11	ELECT	470uF	20%	10V
C343	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C344	1-104-665-11	ELECT	100uF	20%	16V
C345	1-124-898-51	ELECT	4700uF	20%	16V
C346	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C347	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C348	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C351	1-124-907-11	ELECT	10uF	20%	50V
C352	1-124-907-11	ELECT	10uF	20%	50V
C353	1-164-159-21	CERAMIC	0.1uF	50V	
C354	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C355	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C356	1-130-491-00	MYLAR	0.047uF	5%	50V

Ref. No.	Part No.	Description			Remarks
C357	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C358	1-124-903-11	ELECT	1uF	20%	50V
C359	1-124-907-11	ELECT	10uF	20%	50V
C360	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C361	1-126-963-11	ELECT	4.7uF	20%	50V
C362	1-124-907-11	ELECT	10uF	20%	50V
C363	1-124-902-00	ELECT	0.47uF	20%	50V
C364	1-126-963-11	ELECT	4.7uF	20%	50V
C365	1-163-038-91	CERAMIC CHIP	0.1uF	25V	
C367	1-124-903-11	ELECT	1uF	20%	50V
C368	1-124-907-11	ELECT	10uF	20%	50V
C369	1-124-636-51	ELECT	3300uF	20%	25V
C370	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C371	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C372	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C373	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C376	1-104-664-11	ELECT	47uF	20%	10V
C377	1-104-666-11	ELECT	220uF	20%	16V
C379	1-104-664-11	ELECT	47uF	20%	10V
C380	1-124-899-91	ELECT	22uF	20%	25V
C381	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C382	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C383	1-104-664-11	ELECT	47uF	20%	16V
C910	1-163-033-91	CERAMIC CHIP	0.022uF	50V	
C911	1-163-033-91	CERAMIC CHIP	0.022uF	50V	
		< FILTER >			
CF1	1-760-127-11	FILTER, CERAMIC			
CF2	1-760-127-11	FILTER, CERAMIC			
CF3	1-760-127-11	FILTER, CERAMIC			
CF4	1-579-762-11	VIBRATOR, CERAMIC 456kHz			
		< COMPOSITION CIRCUIT BLOCK >			
CFT1	1-239-173-11	ENCAPSULATED COMPONENT			
		< CONNECTOR >			
* CNP302	1-564-509-21	PLUG, CONNECTOR 6P			
CNP304	1-564-513-11	PLUG, CONNECTOR 10P			
* CNP305	1-564-509-11	PLUG, CONNECTOR 6P			
CNP307	1-564-511-11	PLUG, CONNECTOR 8P			
CNP308	1-778-310-11	PLUG, CONNECTOR 2P			
* CNP309	1-564-508-11	PLUG, CONNECTOR 5P			
CNP310	1-695-346-21	PIN, CONNECTOR (PC BOARD) 23P			
CNP311	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP312	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
		< TRIMMER >			
CT1	1-141-411-11	CAP, ADJ 20PF			
		< DIODE >			
D1	8-719-991-33	DIODE	1SS133T-77		
D2	8-719-991-33	DIODE	1SS133T-77		
D3	8-719-991-33	DIODE	1SS133T-77		
D4	8-719-991-33	DIODE	1SS133T-77		
D5	8-719-050-69	DIODE	KV1520N		
D6	8-719-991-33	DIODE	1SS133T-77		
D301	8-719-991-33	DIODE	1SS133T-77		
D302	8-719-991-33	DIODE	1SS133T-77		
D303	8-719-941-86	DIODE	DAN202U		
D304	8-719-991-33	DIODE	1SS133T-77		

Ref. No.	Part No.	Description		Remarks
D305	8-719-991-33	DIODE	1SS133T-77	
D306	8-719-941-86	DIODE	DAN202U	
D307	8-719-991-33	DIODE	1SS133T-77	
D308	8-719-941-86	DIODE	DAN202U	
D309	8-719-991-33	DIODE	1SS133T-77	
D310	8-719-991-33	DIODE	1SS133T-77	
D311	8-719-991-33	DIODE	1SS133T-77	
D312	8-719-991-33	DIODE	1SS133T-77	
D322	8-719-914-42	DIODE	DA204K	
D323	8-719-109-89	DIODE	RD5.6ESB2	
D325	8-719-991-33	DIODE	1SS133T-77	
D326	8-719-991-33	DIODE	1SS133T-77	
D327	8-719-991-33	DIODE	1SS133T-77	
D909	8-719-046-47	DIODE	1N5401TM	
D910	8-719-046-47	DIODE	1N5401TM	
D911	8-719-046-47	DIODE	1N5401TM	
D912	8-719-046-47	DIODE	1N5401TM	
		< FERRITE BEAD >		
FB101	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH		
FB201	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH		
FB301	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH		
		< IC >		
IC1	8-759-386-02	IC	TA2008AN	
IC2	8-759-333-33	IC	BU2614	
IC301	1-809-920-11	IC	BA7755A	
IC302	8-759-359-99	IC	M51167BFP	
IC303	8-759-711-35	IC	NJM4580D	
IC304	8-759-325-94	IC	TDA7319	
IC305	8-759-711-35	IC	NJM4580D	
IC306	8-759-190-89	IC	TDA7265	
IC307	8-759-711-35	IC	NJM4580D	
IC308	8-759-000-48	IC	MC14052BCP	
IC309	8-759-701-88	IC	NJM7912FA	
IC310	8-759-231-58	IC	TA7812S	
IC312	8-759-701-56	IC	NJM78M05FA	
IC313	8-759-634-51	IC	M5218AP	
		< JACK >		
J301	1-774-302-11	JACK (MIX MIC)		
J302	1-537-240-31	TERMINAL BOARD (CHECKER PIN)		
		< JUMPER RESISTOR >		
JW70	1-216-295-91	SHORT	0	
JW71	1-216-295-91	SHORT	0	
		< COIL >		
L1	1-414-142-11	INDUCTOR	1uH	
L2	1-411-586-11	COIL, AM ANT		
L3	1-411-234-11	COIL, AM OSC		
L4	1-410-525-11	INDUCTOR	220uH	
L5	1-410-521-11	INDUCTOR	100uH	
L102	1-410-513-11	INDUCTOR	22uH	
L202	1-410-513-11	INDUCTOR	22uH	
L301	1-410-517-11	INDUCTOR	47uH	
L303	1-408-405-00	INDUCTOR	4.7uH	
L304	1-408-405-00	INDUCTOR	4.7uH	

MAIN

< TRANSISTOR >

Ref. No.	Part No.	Description		Remarks
Q1	8-729-931-02	TRANSISTOR	2SC2413KQ	
Q2	8-729-900-53	TRANSISTOR	DTC114EK	
Q3	1-801-806-11	TRANSISTOR	DTC144EKA-T146	
Q4	1-801-806-11	TRANSISTOR	DTC144EKA-T146	
Q5	1-801-806-11	TRANSISTOR	DTC144EKA-T146	
Q6	8-729-027-23	TRANSISTOR	DTA114EKA-T146	
Q8	8-729-012-83	TRANSISTOR	2SK679A	
Q9	8-729-027-23	TRANSISTOR	DTA114EKA-T146	
Q10	1-801-806-11	TRANSISTOR	DTC144EKA-T146	
Q11	8-729-027-23	TRANSISTOR	DTA114EKA-T146	
Q15	8-729-920-31	TRANSISTOR	DTC343TK	
Q16	8-729-920-31	TRANSISTOR	DTC343TK	
Q101	8-729-115-30	TRANSISTOR	2SK105A-30	
Q102	8-729-027-24	TRANSISTOR	DTA114TKA-T146	
Q103	8-729-027-46	TRANSISTOR	DTC114YKA-T146	
Q104	8-729-920-31	TRANSISTOR	DTC343TK	
Q105	8-729-920-31	TRANSISTOR	DTC343TK	
Q106	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q107	8-729-920-31	TRANSISTOR	DTC343TK	
Q108	8-729-920-31	TRANSISTOR	DTC343TK	
Q109	8-729-027-24	TRANSISTOR	DTA114TKA-T146	
Q110	8-729-920-31	TRANSISTOR	DTC343TK	
Q201	8-729-115-30	TRANSISTOR	2SK105A-30	
Q202	8-729-027-24	TRANSISTOR	DTA114TKA-T146	
Q203	8-729-027-46	TRANSISTOR	DTC114YKA-T146	
Q204	8-729-920-31	TRANSISTOR	DTC343TK	
Q205	8-729-920-31	TRANSISTOR	DTC343TK	
Q206	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q207	8-729-920-31	TRANSISTOR	DTC343TK	
Q208	8-729-920-31	TRANSISTOR	DTC343TK	
Q209	8-729-027-24	TRANSISTOR	DTA114TKA-T146	
Q210	8-729-920-31	TRANSISTOR	DTC343TK	
Q301	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q302	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q303	8-729-027-26	TRANSISTOR	DTA114YKA-T146	
Q304	8-729-027-46	TRANSISTOR	DTC114YKA-T146	
Q305	8-729-027-56	TRANSISTOR	DTC143TKA-T146	
Q306	8-729-993-43	TRANSISTOR	2SA934R	
Q307	8-729-027-44	TRANSISTOR	DTC114TKA-T146	
Q308	8-729-027-46	TRANSISTOR	DTC114YKA-T146	
Q309	8-729-027-46	TRANSISTOR	DTC114YKA-T146	
Q310	8-729-027-46	TRANSISTOR	DTC114YKA-T146	
Q311	8-729-027-26	TRANSISTOR	DTA114YKA-T146	
Q312	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q314	8-729-027-26	TRANSISTOR	DTA114YKA-T146	
Q315	8-729-027-46	TRANSISTOR	DTC114YKA-T146	
Q316	8-729-027-26	TRANSISTOR	DTA114YKA-T146	
Q317	8-729-027-46	TRANSISTOR	DTC114YKA-T146	
Q318	8-729-920-31	TRANSISTOR	DTC343TK	
Q320	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q321	8-729-027-23	TRANSISTOR	DTA114EKA-T146	
Q322	8-729-027-46	TRANSISTOR	DTC114YKA-T146	
Q323	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q324	8-729-027-60	TRANSISTOR	DTC144TKA-T146	

< RESISTOR >

Ref. No.	Part No.	Description			Remarks
R1	1-216-025-91	RES,CHIP	100	5%	1/10W
R2	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3	1-216-049-91	RES,CHIP	1K	5%	1/10W
R4	1-216-029-00	METAL CHIP	150	5%	1/10W
R5	1-216-083-00	METAL CHIP	27K	5%	1/10W
R6	1-216-031-00	METAL CHIP	180	5%	1/10W
R7	1-216-037-00	METAL CHIP	330	5%	1/10W
R8	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R9	1-216-033-00	METAL CHIP	220	5%	1/10W
R10	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R11	1-216-081-00	METAL CHIP	22K	5%	1/10W
R12	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R13	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R14	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R15	1-249-401-11	CARBON	47	5%	1/4W F
R16	1-216-073-00	METAL CHIP	10K	5%	1/10W
R17	1-249-390-11	CARBON	5.6	5%	1/4W F
R18	1-216-081-00	METAL CHIP	22K	5%	1/10W
R19	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R20	1-216-073-00	METAL CHIP	10K	5%	1/10W
R21	1-216-073-00	METAL CHIP	10K	5%	1/10W
R22	1-216-045-00	METAL CHIP	680	5%	1/10W
R23	1-216-039-00	METAL CHIP	390	5%	1/10W
R24	1-216-073-00	METAL CHIP	10K	5%	1/10W
R25	1-216-073-00	METAL CHIP	10K	5%	1/10W
R26	1-216-073-00	METAL CHIP	10K	5%	1/10W
R27	1-216-049-91	RES,CHIP	1K	5%	1/10W
R28	1-216-049-91	RES,CHIP	1K	5%	1/10W
R29	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R30	1-216-073-00	METAL CHIP	10K	5%	1/10W
R31	1-216-089-91	RES,CHIP	47K	5%	1/10W
R32	1-216-089-91	RES,CHIP	47K	5%	1/10W
R33	1-216-073-00	METAL CHIP	10K	5%	1/10W
R34	1-247-815-91	CARBON	220	5%	1/4W
R35	1-216-025-91	RES,CHIP	100	5%	1/10W
R36	1-216-089-91	RES,CHIP	47K	5%	1/10W
R37	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R101	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R102	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R103	1-216-113-00	METAL CHIP	470K	5%	1/10W
R104	1-216-021-00	METAL CHIP	68	5%	1/10W
R105	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R106	1-216-049-91	RES,CHIP	1K	5%	1/10W
R107	1-216-091-00	METAL CHIP	56K	5%	1/10W
R108	1-216-079-00	METAL CHIP	18K	5%	1/10W
R109	1-216-049-91	RES,CHIP	1K	5%	1/10W
R110	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R111	1-216-089-91	RES,CHIP	47K	5%	1/10W
R112	1-216-089-91	RES,CHIP	47K	5%	1/10W
R113	1-216-049-91	RES,CHIP	1K	5%	1/10W
R114	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R115	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R118	1-216-079-00	METAL CHIP	18K	5%	1/10W
R119	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R120	1-216-089-91	RES,CHIP	47K	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R121	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R123	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R124	1-216-073-00	METAL CHIP	10K	5%	1/10W
R127	1-216-113-00	METAL CHIP	470K	5%	1/10W
R128	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R129	1-216-073-00	METAL CHIP	10K	5%	1/10W
R130	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R131	1-216-081-00	METAL CHIP	22K	5%	1/10W
R132	1-216-049-91	RES,CHIP	1K	5%	1/10W
R133	1-216-089-91	RES,CHIP	47K	5%	1/10W
R134	1-216-049-91	RES,CHIP	1K	5%	1/10W
R135	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R137	1-216-081-00	METAL CHIP	22K	5%	1/10W
R138	1-216-037-00	METAL CHIP	330	5%	1/10W
R139	1-216-081-00	METAL CHIP	22K	5%	1/10W
R140	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R141	1-216-073-00	METAL CHIP	10K	5%	1/10W
R142	1-216-039-00	METAL CHIP	390	5%	1/10W
R143	1-216-073-00	METAL CHIP	10K	5%	1/10W
R144	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R145	1-249-403-11	CARBON	68	5%	1/4W F
R146	1-216-073-00	METAL CHIP	10K	5%	1/10W
R147	1-216-049-91	RES,CHIP	1K	5%	1/10W
R148	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R149	1-216-089-91	RES,CHIP	47K	5%	1/10W
R150	1-216-073-00	METAL CHIP	10K	5%	1/10W
R151	1-216-073-00	METAL CHIP	10K	5%	1/10W
R152	1-216-089-91	RES,CHIP	47K	5%	1/10W
R153	1-216-097-91	RES,CHIP	100K	5%	1/10W
R154	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R201	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R202	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R203	1-216-113-00	METAL CHIP	470K	5%	1/10W
R204	1-216-021-00	METAL CHIP	68	5%	1/10W
R205	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R206	1-216-049-91	RES,CHIP	1K	5%	1/10W
R207	1-216-091-00	METAL CHIP	56K	5%	1/10W
R208	1-216-079-00	METAL CHIP	18K	5%	1/10W
R209	1-216-049-91	RES,CHIP	1K	5%	1/10W
R210	1-216-311-00	METAL CHIP	6.8	5%	1/10W
R211	1-216-089-91	RES,CHIP	47K	5%	1/10W
R212	1-216-089-91	RES,CHIP	47K	5%	1/10W
R213	1-216-049-91	RES,CHIP	1K	5%	1/10W
R214	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R215	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R218	1-216-079-00	METAL CHIP	18K	5%	1/10W
R219	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R220	1-216-089-91	RES,CHIP	47K	5%	1/10W
R221	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R223	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R224	1-216-073-00	METAL CHIP	10K	5%	1/10W
R227	1-216-113-00	METAL CHIP	470K	5%	1/10W
R228	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R229	1-216-073-00	METAL CHIP	10K	5%	1/10W
R230	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R231	1-216-081-00	METAL CHIP	22K	5%	1/10W
R232	1-216-049-91	RES,CHIP	1K	5%	1/10W
R233	1-216-089-91	RES,CHIP	47K	5%	1/10W
R234	1-216-049-91	RES,CHIP	1K	5%	1/10W
R235	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R237	1-216-081-00	METAL CHIP	22K	5%	1/10W
R238	1-216-037-00	METAL CHIP	330	5%	1/10W
R239	1-216-081-00	METAL CHIP	22K	5%	1/10W
R240	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R241	1-216-073-00	METAL CHIP	10K	5%	1/10W
R242	1-216-039-00	METAL CHIP	390	5%	1/10W
R243	1-216-073-00	METAL CHIP	10K	5%	1/10W
R244	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R245	1-249-403-11	CARBON	68	5%	1/4W F
R246	1-216-073-00	METAL CHIP	10K	5%	1/10W
R247	1-216-049-91	RES,CHIP	1K	5%	1/10W
R248	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R249	1-216-089-91	RES,CHIP	47K	5%	1/10W
R250	1-216-073-00	METAL CHIP	10K	5%	1/10W
R251	1-216-073-00	METAL CHIP	10K	5%	1/10W
R252	1-216-089-91	RES,CHIP	47K	5%	1/10W
R253	1-216-097-91	RES,CHIP	100K	5%	1/10W
R254	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R301	1-216-001-00	METAL CHIP	10	5%	1/10W
R302	1-216-085-00	METAL CHIP	33K	5%	1/10W
R303	1-216-073-00	METAL CHIP	10K	5%	1/10W
R304	1-249-413-11	CARBON	470	5%	1/4W F
R305	1-216-073-00	METAL CHIP	10K	5%	1/10W
R306	1-216-091-00	METAL CHIP	56K	5%	1/10W
R307	1-216-091-00	METAL CHIP	56K	5%	1/10W
R308	1-249-408-11	CARBON	180	5%	1/4W F
R309	1-247-791-91	CARBON	22	5%	1/4W
R310	1-216-009-00	METAL CHIP	22	5%	1/10W
R311	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R312	1-216-049-91	RES,CHIP	1K	5%	1/10W
R313	1-216-105-91	RES,CHIP	220K	5%	1/10W
R314	1-216-097-91	RES,CHIP	100K	5%	1/10W
R314	1-247-815-91	CARBON	220	5%	1/4W
R315	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R316	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R317	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R318	1-216-121-91	RES,CHIP	1M	5%	1/10W
R319	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R320	1-216-097-91	RES,CHIP	100K	5%	1/10W
R321	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R322	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R323	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R324	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R325	1-249-411-11	CARBON	330	5%	1/4W
R326	1-216-049-91	RES,CHIP	1K	5%	1/10W
R327	1-216-049-91	RES,CHIP	1K	5%	1/10W
R328	1-216-049-91	RES,CHIP	1K	5%	1/10W
R329	1-216-049-91	RES,CHIP	1K	5%	1/10W
R329	1-216-073-00	METAL CHIP	10K	5%	1/10W
R330	1-216-097-91	RES,CHIP	100K	5%	1/10W
R331	1-216-113-00	METAL CHIP	470K	5%	1/10W
R332	1-216-081-00	METAL CHIP	22K	5%	1/10W
R333	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R334	1-216-097-91	RES,CHIP	100K	5%	1/10W
R335	1-216-097-91	RES,CHIP	100K	5%	1/10W
R336	1-216-081-00	METAL CHIP	22K	5%	1/10W
R337	1-216-073-00	METAL CHIP	10K	5%	1/10W
R338	1-216-001-00	METAL CHIP	10	5%	1/10W
R339	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R340	1-216-061-00	METAL CHIP	3.3K	5%	1/10W

MAIN POWER REGULATOR

Ref. No.	Part No.	Description			Remarks
R341	1-216-097-91	RES,CHIP	100K	5%	1/10W
R342	1-216-097-91	RES,CHIP	100K	5%	1/10W
R344	1-216-073-00	METAL CHIP	10K	5%	1/10W
R345	1-216-049-91	RES,CHIP	1K	5%	1/10W
R346	1-216-047-91	RES,CHIP	820	5%	1/10W
R347	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R348	1-216-113-00	METAL CHIP	470K	5%	1/10W
R349	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R350	1-216-097-91	RES,CHIP	100K	5%	1/10W
R351	1-216-073-00	METAL CHIP	10K	5%	1/10W
R352	1-216-109-00	METAL CHIP	330K	5%	1/10W
R353	1-249-414-11	CARBON	560	5%	1/4W F
R354	1-249-414-11	CARBON	560	5%	1/4W F
R355	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R356	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R357	1-216-073-00	METAL CHIP	10K	5%	1/10W
R358	1-216-089-91	RES,CHIP	47K	5%	1/10W
R359	1-216-089-91	RES,CHIP	47K	5%	1/10W
R360	1-216-073-00	METAL CHIP	10K	5%	1/10W
R361	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R362	1-216-073-00	METAL CHIP	10K	5%	1/10W
R363	1-216-049-91	RES,CHIP	1K	5%	1/10W
R366	1-216-089-91	RES,CHIP	47K	5%	1/10W
R367	1-216-121-91	RES,CHIP	1M	5%	1/10W
R368	1-216-047-91	RES,CHIP	820	5%	1/10W
R369	1-216-039-00	METAL CHIP	390	5%	1/10W
R370	1-216-049-91	RES,CHIP	1K	5%	1/10W
R371	1-216-025-91	RES,CHIP	100	5%	1/10W
R372	1-216-025-91	RES,CHIP	100	5%	1/10W
		< TRANSFORMER >			
T301	1-411-980-11	TRANSFORMER, BIAS OSCILLATION			
		< RF UNIT >			
U1	1-693-335-11	FRONT END (3 GANG)			
		< VARIABLE RESISTOR >			
VR301	1-225-608-11	RES, ADJ 10K (MIC VOL)			
		< VIBRATOR >			
X1	1-760-130-11	VIBRATOR, CRYSTAL 75kHz			
**********					
	1-669-360-11	POWER BOARD			
		**********			
	1-533-217-31	HOLDER, FUSE			
	1-533-233-11	HOLDER, FUSE			
		< CAPACITOR >			
C901	1-101-005-00	CERAMIC	22000PF	50V	
C902	1-101-005-00	CERAMIC	22000PF	50V	
C903	1-101-005-00	CERAMIC	22000PF	50V	
C904	1-101-005-00	CERAMIC	22000PF	50V	
C905	1-101-005-00	CERAMIC	22000PF	50V	
C906	1-101-005-00	CERAMIC	22000PF	50V	
C907	1-101-005-00	CERAMIC	22000PF	50V	
C908	1-101-005-00	CERAMIC	22000PF	50V	
⚠C909	1-113-924-11	CERAMIC	0.0047uF	20%	250V
C910	1-161-494-00	CERAMIC	0.022uF	25V	

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
⚠J901	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P	
		< CONNECTOR >	
CNP902	1-564-511-11	PLUG, CONNECTOR 8P	
		< DIODE >	
D901	8-719-200-02	DIODE 10E2	
D902	8-719-200-02	DIODE 10E2	
D903	8-719-200-02	DIODE 10E2	
D904	8-719-200-02	DIODE 10E2	
D905	8-719-200-02	DIODE 10E2	
D906	8-719-200-02	DIODE 10E2	
D907	8-719-200-02	DIODE 10E2	
D908	8-719-200-02	DIODE 10E2	
		< FUSE >	
⚠F901	1-532-500-31	FUSE T1A 250V	
⚠F902	1-532-502-31	FUSE T1.25A 250V	
⚠F903	1-532-502-31	FUSE T1.25A 250V	
		< LINE FILTER >	
⚠LF901	1-424-485-11	FILTER, LINE	
		< SWITCH >	
⚠SW901	1-762-509-11	SWITCH, POWER	
		< TRANSFORMER >	
⚠T901	1-431-785-11	TRANSFORMER, POWER	
**********			
*	1-669-359-11	REGULATOR BOARD	
		**********	
		< CAPACITOR >	
C349	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C350	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C366	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
		< CONNECTOR >	
* CNP306	1-564-509-11	PLUG, CONNECTOR 6P	
		< DIODE >	
D320	8-719-991-33	DIODE 1SS133T-77	
D321	8-719-991-33	DIODE 1SS133T-77	
		< IC >	
IC311	8-759-332-39	IC UPC24M06HF	
		< TRANSISTOR >	
Q319	8-729-141-83	TRANSISTOR 2SB1094-LK	
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The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remarks
*	A-3293-915-A	VCD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1001	1-163-109-11	CERAMIC CHIP	47PF	5%	50V
C1002	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1004	1-163-121-11	CERAMIC CHIP	150PF	5%	50V
C1005	1-124-907-11	ELECT	10uF	20%	50V
C1006	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1007	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1008	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1009	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1010	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C1011	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1012	1-124-474-11	ELECT	47uF	20%	16V
C1013	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1014	1-124-470-11	ELECT	470uF	20%	6.3V
C1016	1-163-117-11	CERAMIC CHIP	100PF	5%	50V
C1017	1-163-127-11	CERAMIC CHIP	270PF	5%	50V
C1018	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1019	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1020	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1021	1-163-129-11	CERAMIC CHIP	330PF	10%	50V
C1022	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1023	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1024	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1025	1-163-021-11	CERAMIC CHIP	0.01uF	1O%	50V
C1026	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1027	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1028	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1029	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1030	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C1031	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1032	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1033	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1034	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1035	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1036	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1037	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1038	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1039	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1040	1-163-101-11	CERAMIC CHIP	22PF	5%	50V
C1041	1-163-101-11	CERAMIC CHIP	22PF	5%	50V
C1042	1-163-021-11	CERAMIC CHIP	0.01uF	1O%	50V
C1043	1-163-021-11	CERAMIC CHIP	0.01uF	1O%	50V
C1044	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1045	1-163-021-11	CERAMIC CHIP	0.01uF	1O%	50V
C1046	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1048	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C1049	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C1050	1-124-907-11	ELECT	10uF	20%	50V
C1051	1-124-907-11	ELECT	10uF	20%	50V
C1054	1-124-907-11	ELECT	10uF	20%	50V
C1055	1-104-666-11	ELECT	220uF	20%	16V
C1056	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1057	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1058	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1058	1-162-600-11	CERAMIC	0.0047uF	20%	16V
C1059	1-124-118-11	ELECT	220uF	20%	16V

Ref. No.	Part No.	Description			Remarks
C1060	1-124-907-11	ELECT	10uF	20%	50V
C1061	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C1062	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C1063	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1064	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1065	1-124-118-11	ELECT	220uF	20%	16V
C1066	1-124-906-11	ELECT	4.7uF	20%	16V
C1067	1-124-118-11	ELECT	220uF	20%	16V
C1068	1-124-474-11	ELECT	47uF	20%	16V
C1069	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C1070	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C1071	1-124-907-11	ELECT	10uF	20%	50V
C1072	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1074	1-124-118-11	ELECT	220uF	20%	16V
C1076	1-163-021-11	CERAMIC CHIP	0.01uF	1O%	50V
C1077	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1078	1-165-319-11	CERAMIC CHIP	0.1uF	50V	
C1079	1-124-474-11	ELECT	47uF	20%	16V
		< DIODE >			
D1001	8-719-991-33	DIODE	1SS133T-77		
D1002	8-719-991-33	DIODE	1SS133T-77		
D1003	8-719-991-33	DIODE	1SS133T-77		
D1004	8-719-991-33	DIODE	1SS133T-77		
D1006	8-719-987-65	DIODE	1N4148		
D1007	8-719-904-01	DIODE	1N4001		
D1008	8-719-904-01	DIODE	1N4001		
		< CONNECTOR >			
J1001	1-564-520-11	PIN, CONNECTOR 5P			
J1003	1-564-520-11	PIN, CONNECTOR 5P			
		< COIL >			
L1001	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH			
L1002	1-410-500-11	INDUCTOR	1.8uH		
L1003	1-410-502-11	INDUCTOR	2.7uH		
L1004	1-410-500-11	INDUCTOR	1.8uH		
L1005	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH			
L1006	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH			
L1007	1-410-509-11	INDUCTOR	10uH		
L1008	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH			
L1009	1-410-513-11	INDUCTOR	22uH		
L1010	1-410-513-11	INDUCTOR	22uH		
L1011	1-410-509-11	INDUCTOR	10uH		
L1012	1-410-775-11	INDUCTOR	10mH		
		< PHOTO INTERRUPTER >			
P1001	1-774-757-11	CONNECTOR, FFC 15P			
		< TRANSISTOR >			
Q1001	8-729-027-44	TRANSISTOR	DTC114TKA-T146		
Q1002	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
Q1003	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
Q1004	8-729-027-26	TRANSISTOR	DTA114YKA-T146		
Q1005	8-729-027-56	TRANSISTOR	DTC143TKA-T146		

VCD

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R1001	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1002	1-216-073-91	RES,CHIP	10K	5%	1/10W
R1003	1-216-121-91	RES,CHIP	1M	5%	1/10W
R1006	1-216-073-91	RES,CHIP	10K	5%	1/10W
R1008	1-216-073-91	RES,CHIP	10K	5%	1/10W
R1009	1-216-022-91	RES,CHIP	75	5%	1/10W
R1010	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1013	1-216-025-00	METAL CHIP	100	5%	1/10W
R1014	1-216-035-00	METAL CHIP	270	5%	1/10W
R1015	1-216-121-91	RES,CHIP	1M	5%	1/10W
R1016	1-216-311-00	METAL CHIP	6.8	5%	1/10W
R1018	1-216-025-00	METAL CHIP	100	5%	1/10W
R1020	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1021	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1023	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1025	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1026	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1027	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1028	1-216-071-91	RES,CHIP	8.2K	5%	1/10W
R1031	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1032	1-216-073-91	RES,CHIP	10K	5%	1/10W
R1033	1-216-081-00	METAL CHIP	22K	5%	1/10W
R1034	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1035	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1036	1-216-073-91	RES,CHIP	10K	5%	1/10W
R1038	1-216-081-00	METAL CHIP	22K	5%	1/10W
R1039	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1041	1-216-089-00	METAL CHIP	47K	5%	1/10W
R1042	1-216-073-91	RES,CHIP	10K	5%	1/10W
R1043	1-216-017-00	METAL CHIP	47	5%	1/10W
R1044	1-216-017-00	METAL CHIP	47	5%	1/10W
R1045	1-216-017-00	METAL CHIP	47	5%	1/10W
R1046	1-216-017-00	METAL CHIP	47	5%	1/10W
R1047	1-216-017-00	METAL CHIP	47	5%	1/10W
R1048	1-216-017-00	METAL CHIP	47	5%	1/10W
R1049	1-216-017-00	METAL CHIP	47	5%	1/10W
R1050	1-216-017-00	METAL CHIP	47	5%	1/10W
R1051	1-216-017-00	METAL CHIP	47	5%	1/10W
R1052	1-216-017-00	METAL CHIP	47	5%	1/10W
R1053	1-216-017-00	METAL CHIP	47	5%	1/10W
R1054	1-216-017-00	METAL CHIP	47	5%	1/10W
R1055	1-216-017-00	METAL CHIP	47	5%	1/10W
R1056	1-216-017-00	METAL CHIP	47	5%	1/10W
R1057	1-216-017-00	METAL CHIP	47	5%	1/10W
R1058	1-216-017-00	METAL CHIP	47	5%	1/10W
R1059	1-216-017-00	METAL CHIP	47	5%	1/10W
R1060	1-216-017-00	METAL CHIP	47	5%	1/10W
R1061	1-216-017-00	METAL CHIP	47	5%	1/10W
R1062	1-216-017-00	METAL CHIP	47	5%	1/10W
R1063	1-216-017-00	METAL CHIP	47	5%	1/10W
R1064	1-216-017-00	METAL CHIP	47	5%	1/10W
R1065	1-216-017-00	METAL CHIP	47	5%	1/10W
R1066	1-216-017-00	METAL CHIP	47	5%	1/10W
R1067	1-216-017-00	METAL CHIP	47	5%	1/10W
R1068	1-216-017-00	METAL CHIP	47	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R1069	1-216-017-00	METAL CHIP	47	5%	1/10W
R1070	1-216-017-00	METAL CHIP	47	5%	1/10W
R1071	1-216-017-00	METAL CHIP	47	5%	1/10W
R1072	1-216-017-00	METAL CHIP	47	5%	1/10W
R1073	1-216-017-00	METAL CHIP	47	5%	1/10W
R1074	1-216-017-00	METAL CHIP	47	5%	1/10W
R1075	1-216-017-00	METAL CHIP	47	5%	1/10W
R1076	1-216-017-00	METAL CHIP	47	5%	1/10W
R1077	1-216-017-00	METAL CHIP	47	5%	1/10W
R1078	1-216-017-00	METAL CHIP	47	5%	1/10W
R1079	1-216-017-00	METAL CHIP	47	5%	1/10W
R1080	1-216-017-00	METAL CHIP	47	5%	1/10W
R1081	1-216-017-00	METAL CHIP	47	5%	1/10W
R1082	1-216-017-00	METAL CHIP	47	5%	1/10W
R1083	1-216-017-00	METAL CHIP	47	5%	1/10W
R1084	1-216-017-00	METAL CHIP	47	5%	1/10W
R1085	1-216-017-00	METAL CHIP	47	5%	1/10W
R1086	1-216-017-00	METAL CHIP	47	5%	1/10W
R1087	1-216-017-00	METAL CHIP	47	5%	1/10W
R1088	1-216-017-00	METAL CHIP	47	5%	1/10W
R1089	1-216-017-00	METAL CHIP	47	5%	1/10W
R1090	1-216-017-00	METAL CHIP	47	5%	1/10W
R1091	1-216-017-00	METAL CHIP	47	5%	1/10W
R1092	1-216-017-00	METAL CHIP	47	5%	1/10W
R1093	1-216-017-00	METAL CHIP	47	5%	1/10W
R1094	1-216-017-00	METAL CHIP	47	5%	1/10W
R1095	1-216-017-00	METAL CHIP	47	5%	1/10W
R1096	1-216-017-00	METAL CHIP	47	5%	1/10W
R1097	1-216-017-00	METAL CHIP	47	5%	1/10W
R1098	1-216-017-00	METAL CHIP	47	5%	1/10W
R1099	1-216-017-00	METAL CHIP	47	5%	1/10W
R1100	1-216-017-00	METAL CHIP	47	5%	1/10W
R1101	1-216-017-00	METAL CHIP	47	5%	1/10W
R1102	1-216-017-00	METAL CHIP	47	5%	1/10W
R1103	1-216-025-00	METAL CHIP	100	5%	1/10W
		< IC >			
U1002	8-759-531-85	IC MX23C512PC-10-HT02A			
U1003	8-759-925-74	IC SN74HC04ANS			
U1004	8-759-434-50	IC KM416C254BLJ-6-TEL			
U1005	8-759-531-85	IC MX23C512PC-10-HT02A			
U1006	8-759-531-82	IC RL5C293			
U1007	8-759-479-35	IC CL484VCD-G1			
U1008	8-759-531-83	IC VIS2088			
U1009	8-759-364-34	IC SM5877AM			
		< VIBRATOR >			
X1001	1-767-870-11	VIBRATOR, CRYSTAL 40.5MHz			
X1002	1-767-871-11	VIBRATOR, CRYSTAL 12MHz			

****

Ref. No.	Part No.	Description			Remarks
*	1-669-365-11	V-JACK BOARD			
		**********			
		< CAPACITOR >			
C1061	1-162-284-31	CERAMIC	150PF	10%	50V
		< CONNECTOR >			
CNP100	1-564-520-11	PIN, CONNECTOR 5P			
		< JACK >			
J1001	1-779-898-11	JACK, RCA PIN (VIDEO OUT)			
		< COIL >			
L1012	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH			
		< SWITCH >			
S1001	1-553-725-00	SWITCH, SLIDE (NTSC/PAL)			
**********					
		MISCELLANEOUS			
		**********			
⚠5	1-575-651-21	CORD, POWER			
14	1-783-370-11	WIRE(FLAT TYPE) (15 CORE)			
59	1-783-369-11	WIRE(FLAT TYPE) (17 CORE)			
62	1-783-371-11	WIRE, PARALLEL			
102	1-452-732-11	MAGNET			
113	1-769-824-11	WIRE (FLAT TYPE) (16 CORE)			
⚠251	8-848-483-05	OPTICAL PICK-UP KSS-213C/Q-RP			
HE101	1-543-673-11	HEAD, MAGNETIC (ERASE)			
HRP101	1-543-424-21	HEAD (RECORD/PLAYBACK)			
M601	X-3372-674-1	MOTOR ASSY (CAPSTAN/REEL)			
M701	X-2625-769-1	GEAR ASSY (MB)(RP), MOTOR (SLED)			
M702	X-2626-202-2	CHASSIS ASSY (MB)(RP), MOTOR(SPINDLE)			
S601	1-571-556-11	SWITCH, LEAF (PLAY)			
S602	1-692-302-11	SWITCH, LEAF (CrO2)			
S603	1-571-556-11	SWITCH, LEAF (REC)			
S604	1-571-556-11	SWITCH, LEAF (MOTOR)			
S701	1-692-960-11	SWITCH, PUSH (1 KEY) (CD DOOR)			
**********					

Ref. No.	Part No.	Description	Remarks
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-501-843-11	ANTENNA, ROOP	
	3-704-222-11	LABEL,SERIAL NUMBER (PRINTER)	
	3-862-115-11	MANUAL, INSTRUCTION (ENGLISH)	
	4-991-047-01	LID,BATTERY (FOR REMOTE COMMANDER)	
	8-917-622-90	REMOCON, SONY RMT-C222VA	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-247-19	SCREW +KTP 3 × 10 TYPE2 NON-SLIT	
#3	7-685-880-09	SCREW +BVTT 4 × 6 (S)	
#4	7-621-770-99	SCREW +P 2.6 × 8	
#5	7-685-647-79	SCREW +BVTP 3 × 10 TYPE2 N-S	
#6	7-685-862-09	SCREW +BVTT 2.6 × 6 (S)	
#7	7-685-646-79	SCREW +BVTP 3 × 8 TYPE2 N-S	
#8	7-628-254-05	SCREW +PS 2.6 × 5	
#9	7-685-861-01	SCREW +BVTT 2.6 × 5 (S)	
#10	7-685-104-19	SCREW +P 2 × 6 TYPE2 NON-SLIT	
#11	7-621-255-15	SCREW +P 2 × 3	
#12	7-685-881-09	SCREW +BVTT 4 × 8 (S)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

9-924-916-11

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Personal A&V Products Company

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